

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

{ STAMPEDSIXPENCE.
{ UNSTAMPED..FIVEPENCE

No. 12, Clement's-lane, Lombard-street, London, E.C.

Original Correspondence.

THE RELATIVE VALUE OF GAS COAL.

SIR,—The publication of the analysis of the Rochsoles gas coal in the *Mining Journal* of June 1, and the statement that its gas-producing capabilities were greater than either the Lesmahagow, or even than the Arncliffe coal, has put the Nithill and Lesmahagow Company on the alert to save the reputation of their produce, yet it appears that the best evidence they can adduce is an old report of 1848, from which many of the most important items for enabling an opinion to be formed as to the value of a coal for the manufacture of gas has been altogether omitted. It is stated that 11,020 cubic feet of gas is produced from each ton of Lesmahagow coal, whilst the Wigan Cannel coal yields only 9500 cubic feet per ton; but the relative quality of the gas is carefully kept out of view. The Wigan may have been 20-candle gas (or even, like the Rochsoles, 26½-candle gas), whilst the Lesmahagow was but 10-candle gas, in which case the difference would have been more than compensated for, and the Lesmahagow coal would have possessed no advantage, except so far as it enabled a gas company to charge its customers a larger amount of money for a given amount of light. In comparing the relative value of the Wigan Cannel and Lesmahagow gas coal, the representatives of the latter coal state that the difference is as 2 to 7, the higher figures representing the Lesmahagow coal. But if the Cannel coal produces 9500 feet, each foot of which burns 57 minutes = 541,500 minutes for the whole, whilst the Lesmahagow coal produces 11,020 feet, each of which burns 65 minutes = 716,300 minutes for the whole, it will be apparent, so far as concerns the gas consumer (even assuming the Lesmahagow coal to give as much light as Cannel gas), if the Wigan coal be worth 6s. per ton the Lesmahagow will only be worth 8s., instead of 21s. per ton, as the representatives of the latter coal state.

Particular importance is attached to "the quality of the light" the gas from Lesmahagow coal yields, although the quantity of light is of far greater moment. The Lesmahagow coal may yield a gas giving a nice soft light, which will not dazzle the eyes; but, surely, low illuminating power is no great recommendation, and until the quality of the gas rather than the quantity of the light is stated, but little can be confidently stated in favour of Lesmahagow coal. The subjoined will show the additional particulars wanted for that coal; those relating to Rochsoles have been already given:—

	Rochsoles.	Lesmahagow.
Gas per ton of coal.....	11,902 c. ft.	11,020 c. ft.
Coke from ditto.....	1182 lbs.	1091 lbs.
Specific gravity of gas.....	.542	.642
Value of 1 ft. of gas in spm.....	636 grs.	—
Illuminating power of 5 cubic feet of gas.....	26.5 candles	—
Weight of gas per ton.....	494 lbs.	463 lbs.

It would be desirable, if possible, to have the Lesmahagow analyses of some date more recent than 1848, which, being the year of revolutions, may have been the last in which that aristocratic quality of coal was found in those pits. That the Lesmahagow coal is of excellent quality I fully admit, but that admission does not at all convince me that it is better than the Rochsoles, or that either is better than the best Wigan Cannel, unless particular samples be taken for making the analyses. The Rochsoles seam is only 3½ in. thick, and has three qualities of coal in that small thickness, and there is nothing to show that the Lesmahagow analyses have not been made with selected specimens from an equally irregular seam. With those Scotch coals, the whole seam, and at least 20 tons of it, should be tested, in order to get anything like a reliable average. LANCASTRENSIS, July 1.

THE WORKING OF FIERY COLLIERIES WITHOUT THE USE OF SAFETY-LAMPS.

SIR,—It is now more than twenty centuries since Euclid, of Alexandria, collected into a well-arranged system the scattered principles and truths of geometry. In no age, nor in any nation, since he gave to the world his work has there ever existed a human being who could prove those principles to be false. And why? Because they are stamped in the eternal and everlasting laws of the universe, and neither time nor space can annihilate or supersede them. But there are very few things which mankind has to deal with that do not require altering, amending, reconstructing, &c., as time and circumstance change. We have, therefore, to be continually reviewing, improving, and trying to better adapt and design our words and works to suit the altered circumstances in which we may be placed.

The mental, like the physical, nature of man would seem to be subject to the law of attraction; for when we once get fixed in a certain state we are, either from ignorance or interest, loth to remove. Sometimes when a new idea or thing is brought before us it presents itself in two phases; while the one will confer upon us a certain proportion of good, the other will confer upon us a like proportion of evil. We have, then, to call before the mind's eye, as it were, the circumstances connected with both parts of the subject, and see, if we can, whether the provable good will balance or outweigh the probable evil. But it sometimes happens that we cannot arrive at correct results from a train of mental reasoning, because we cannot bring forward all the causes and effects, and arrange them in proper order before our mental vision. And it is only after many trials, extending over a long time, and looking at them from different stand points, that we are able to come to anything like a definite conclusion upon the subject.

It is now more than half-a-century since the Safety-Lamp was given to the world, and it yet forms a subject of controversy as to whether there is most good or most evil arising from its use. For some years past it has been a settled point in my mind that by strict and exclusive use of the Stephenson lamp in fiery mines the balance of good is greatly in excess of the evil arising therefrom. Of all the accounts that have come under my notice I can only find one where there has been an explosion when a strict and exclusive use of the Stephenson lamp was in full operation, and that explosion was at the Oaks Colliery, Barnsley, the cause of which is yet hidden, and whether it will ever be correctly known or not is a question which time only can solve. There have been explosions where the Davy lamp has been exclusively used, but the Davy lamp, in its most perfect state, has been proved not to be safe under certain conditions.

A short time since there appeared an article in the *Mining Journal*, stating that at a certain place there was being worked a fiery mine, without the use of safety-lamps. I wrote a short letter, confessing my inability to see any other plan of working fiery mines safely except by a strict and exclusive use of safety-lamps. I have waited to see if anyone could or would throw any light upon the subject, but no one has yet done so. There was a letter in the *Journal* of June 8, from "Investigo," who states that he would not on any account assert that a fiery colliery can be worked with naked lights, thereby virtually admitting the principles I hold to be true; but there is a point or two in his communication which I should like to notice. He says he regards the blower argument as one very much puffed. Now, I do not think it is courteous language to say that a thing is puffed unless we know from actual observation that it is so, for there are so many things which we have at one period of our lives thought to be false that we have afterwards found to be true, and others which we have thought to be true that have turned out to be false, that it behoves us to be very cautious in the use of words. Has "Investigo" proved from practical observation and experience that what he says about the puffing of the blower argument is true? If so, where are the places he refers to? Please give names and dates.

I well remember when the first large outburst of gas at the Stafford Colliery, at Barnsley, occurred. I wrote a short article, simply stating the facts that had taken place, which had been witnessed by seven men besides myself. An individual, from a certain motive, wrote a letter to the papers to try and make it appear that what I had written was not true, although this person had never been in the pit in his life, and from what I could learn, he had never seen an outburst of gas in any other mine. I only mention this to show in what an off-hand manner some people speak of things they have not seen, or do not understand. Up to the present time outbursts of gas are not of universal occurrence, though I believe some have happened which have not been recorded. There are many mining districts in Great Britain where such a thing as an outburst of gas never has been known; and the mining engineers and colliery managers of

those districts are very hard to convince of such things occurring in such vast quantities. Some years since a man of large experience in mining denied the possibility of these outbursts, in a public assembly, while debating on these matters. I say again, we should be very careful before we either deny or affirm upon any point. "Investigo" seems to think that if an outburst of gas occurs in a pit worked with naked lights, even if the gas became ignited, the result would not be very serious. Let me tell him that if the officials of the Stafford Main Colliery had entertained the idea that nothing serious would happen from working with naked lights, and if they had attempted to carry that idea into practice, I have no hesitation in saying that at that pit alone we should have had to count the loss of lives by hundreds and the loss of property by thousands. However, through the pit being worked with the strict and exclusive use of safety-lamps, there has not up to the present time been a single life lost through these outbursts of gas, nor a penny's worth of property destroyed. Has "Investigo" read the report of Mr. Lionel Brough concerning the outburst that sent off upwards of 100,000 cubic feet of gas in ten minutes, and forced down 30 tons of coal to liberate itself? If so, will he tell us how he would have used naked lights in this place without anything serious happening? From what I learn, if there had been naked lights used the loss of life would have been greater than it was at the Oaks.

I have seen several outbursts of gas, and up to the present time I have not discovered any method, nor have I heard that anyone else has, by which we can tell when we are about to liberate these reservoirs of gas. I have seen places that were quite free and clear filled with gas in two minutes. Then, I say again, I see no plan other than that of always being prepared for them by the exclusive and strict use of safety-lamps.

In conclusion, I would say to those who have the management of mines—Ventilate your pits upon the best possible plan, carry into your works the greatest possible amount of fresh air, remove all gas you can with all possible haste, and use lamps as an additional safeguard.

GEORGE ADCROFT.

UTILISATION OF SMALL COAL.

SIR,—With reference to the letter of your correspondent, "Coal," in last week's *Journal*, it is scarcely necessary for me to say that it will always afford me much satisfaction to give any practical information as to the value and mode of working my inventions. The subject is, of course, of great interest to me personally, but I do not think that I am overrating its character when I say that it is a matter of national importance, for I consider that, with the established fact that nearly 30 millions of tons of coal are annually wasted in this country, it becomes a question which may materially affect the welfare of posterity.

My processes as patented are extremely simple, the cost of the substances used to agglomerate the coal amounting to 1s. per ton. The fuel can be manufactured either by hand or by machinery, and in many cases is superior in quality to the coal which has been employed. My patents are being worked by the London Patent Coal Company (Limited), whose office is at 26, Martin's-lane, Cannon-street, E.C., and any information which may be desired can be obtained by addressing the managing director or myself upon the subject.

Dorset Lodge, Northfleet, Kent, July 2.

DAVID BARKER.

PRICE OF TIN.

SIR,—A tin-producer should have more patience than Job. About seven years ago the writer of this was paid 87s. per ton for his ores, but can only now obtain, according to the present standard, about 55s., including the liberal advance of 2s. on June 17. We are ashamed to subtract the one from the other, the disparity is so great, and looks so black against the smelter—or monopolist, if the term is more acceptable. This is the more astounding to people of common sense and honest feeling, when we remember that the surplus stock is not greater at this moment than when the higher price was paid, from which we fairly infer it should fetch about the same price. Who can explain this? Last year the produce of tin at home and abroad was about 22,000 tons of metal greater than in any former one. It is very cheering to know that, although that year was a time of panic and disaster in the commercial world, the whole quantity was worked up, and a portion of the stock on hand as well. We are of opinion that the supply of tin from all sources this year will not exceed 18,000 tons; whilst, on the other hand, the consumption would go on to increase, but this cannot possibly occur to any great extent, as the supply and stock both are scarcely sufficient to meet the wants of the world. Unless the price of tin is soon raised to something like its fair value, I should be glad to see the producers combine to smelt their own ores. Let there be a capital of two millions raised, and let the adventurers in every tin mine be offered an interest in the smelting-works proportionate to their interest in the mines, and I rather think the concern would work. I should like to have a stake in it, and a hand in getting out the prospectus. The manufacture of tin-plates might then, also, be carried on to advantage as well. Rather than go on as we do now under the present crushing system, I should be glad to see every mine in Cornwall "knocked." TIN MINER.

THE PROGRESS OF MINING—AS A SCIENCE, AND SOURCE OF COMMERCIAL WEALTH.—No. IV.

SIR,—The glimpses afforded us of the new mining fields, if we had not the evidences of the alternating character of the lodes in Cornwall—formations of tin succeeding formations of copper at great depths—establish sufficient ground for the conclusion that very little has yet been done in extracting the metals from the crust of the earth, in comparison with what remains to be done. The wonders exhibited by the produce of gold and silver in that part of the Andes now being crossed by the Great Atlantic and Pacific Railway—that railway now being so rapidly constructed that new cities of several thousands of inhabitants are springing up in its course like mushrooms, within a space formerly deemed sufficient scarcely to erect a decent dwelling. The yield of these lodes in the Sierra Nevada, in comparison with anything we have experienced of mining before, is perfectly astounding. When the back of a good silver lode is struck, cities of 10,000 to 15,000 inhabitants are established in five or six years; and from the mere effluence of the veins—for it is quite clear that no deep mining can yet be established in these new regions—the gold and silver is extracted at such a rate, that the United States calculate (and there is no reason to doubt the estimates) that they will obtain in the present year the precious metals to the extent of 60,000,000 sterling, or in sufficient quantities to pay the taxes of that great country, just emerging from a gigantic war, with all its concomitant expenses, in bullion.

These countries, that realise all the dreams of our ancestors as to El Dorado, or the land of gold, are situate nearly on the highest crests of those famous mountains that run through America from north to south for a distance of 14,000 miles, rising up and forming immense plateaus, like Mexico, 7000 to 8000 feet above the level of the sea, and in parts reaching 21,400 feet of altitude. In those mountains I have myself seen well-defined lodes of copper, ranging from 20 to 40 per cent. of metal, and averaging the great width of 90 feet from wall to wall in solid ore, and almost every point that has been touched or tried in this grand chain of mountains, whether in Peru, Chili, Mexico, California, or British Columbia, the result has been unexampled riches.

So gigantic are the strides of commerce, and the efforts of mankind in making preparations for reaching and dealing with these districts, that the great railway from the Atlantic Ocean westward will be opened into them by Sept. 1 next; while the road from San Francisco eastward, to meet the railway forming westward, has already reached the mines of precious metal on the western slopes of those mountains. At present we can only dream of the results that will arise when all these gold and silver lodes are worked deeply and systematically, for at present all the precious metals coming from the districts of Nevada, Idaho, Colorado, &c., are merely from shallow diggings and small adits on the outcrops of the lodes. Very few of the shafts have yet reached the depth of 60 fms.; whilst in the congeners of these veins in Mexico, the mining of which, beginning two centuries ago, has reached to the depth of 400 fms. from the surface, the lodes proving rich throughout. It is quite impossible to imagine the changes that will be wrought in the commerce and affairs of the

world when these immense resources of gold and silver are vigorously, extensively, and systematically developed. It is interesting to notice that these great sources of the world's wealth are generally established in those parts of our planet that have been raised to the highest altitude with reference to the level of the sea, as if their true locality, or the bed of their creation, had existed at immense depths in the sub-rocks forming the crust of the earth, and afterwards had been brought up to the surface, and submitted to the use of man, by those great subterranean powers that continually go on modifying and altering the levels of its surface. For example, in South Wales, Plynlimmon, the source of five rivers, is the highest ground in the country, and at the point where the centre of the Trigonometrical Survey is built, is 2462 ft. above the level of the sea. Up to a recent period, although science had always pointed to this region as one from analogy likely to be rich in lead ore, there had been no very productive mine established. In the last year or two a very productive lead mine has been opened, within a few hundred yards of the summit of the mountain. The old belt of productive mines, up to this time known as the Cardiganshire Lead Mines, and in which are worked the famous silver-lead mines of Cwmymlog, Darren, Glogllog, Cwm Erfin, &c., and the great lead mines of Esgrair-y-Mwyn, Logllog, and Froncoch, were found in a zone of rock running from 5° west of north, by the needle, to 5° east of south, and at the point on which the beautiful seaport and bathing place of Aberystwith is built, approaching within a distance of seven miles to the sea. No doubt this proximity to the sea accounts for its early discovery, and its occupation, by the Romans and other ancient people, as the metallic veins lie within easy distance of the haunts of shipping. Afterwards research ascended the mountains, and now proves that the theory that the metals would be found in the high ground was well founded; and no doubt many great mines will yet be found, and founded, in this high and inhospitable region, the great drawback to mining in which is that winter extends its reign further into the spring here than in the lower ground, freezing up the machinery and the ore; but, as science can do everything, this may be overcome by the application of steam, and suitable buildings for the shelter of the girls and boys engaged in preparing the ores for market. Another argument elucidative of the theory that the metals of the world are yet but very partially explored lies in the fact that in the district in which the Plynlimmon discovery has been made, although in the lower belts there are some 20 to 30 mines in active work, yet there are not less than 80 mines found, and opened to a small extent, with lead ore coming up to the surface of the veins. We can hardly suppose that this lead has been placed in the sight of man as a false lure, but we may rather conclude that it is an indication that will lead him on until great and productive operations for the support of the human family are established on the lower sections of those lodes of which the outcropping ores are the mere signs. M. F.

THE IMPERIAL SILVER QUARRIES COMPANY (LIMITED).

SIR,—My attention having been directed to a circular issued by the above association, entitled "Notes by Mr. L. Chalmers," in which I am, without my permission, quoted as an authority relative to their mines, I beg to make the following observations:—

It is perfectly true that I some time since visited a property at Mount Bullion, in California, on which I reported, but of which my description was not sufficiently favourable to induce the parties who sent me to examine it to make the purchase. The property in question was well situated with respect to wood and water, and presented some large quartz outcrops on the summit of a high hill, but these were almost completely destitute of mineral.

As my name is also made use of in connection with the machinery, I may further observe that I believe all gold mining machinery is far better designed and manufactured at San Francisco than in this country; and that to send such apparatus, which appears to be intended, from England to California, would be not unlike sending coals from London for the supply of the Newcastle market.

2, Bond-court, Walbrook.

J. ARTHUR PHILLIPS.

MINING IN WALES.

SIR,—For the information of "Tyro," in reference to the mineral resources of the mines in and about the Llanidloes district, I beg to say that most of the mines in that district have been, and still are being, worked by private parties, so that little has been known to the public of the returns made, or profits realised, which, in some cases, have been considerable. The Dylife Mine, the property of Mr. John Bright, M.P., have yielded immense profits, and also the Penelien Mine, situate about two miles to the west of Llanidloes; and the Van Mine, which is on the same lode as Penelien, is now returning, as I was told by one of the proprietors a few days ago, 80 tons of lead per month from the adit level, and is likely to increase very rapidly. Bryntail Mine, on the same lode, has made in years past very large returns, and should not even now be lost sight of, as, if vigorously prosecuted, it will, in my opinion, become a lasting and profitable mine. The Brynpostig Mine, about two miles south of Llanidloes, has already attained a very high position, and although only 12 fms. below the adit level is, on revenue account, leaving a very good profit, and as soon as the machinery is completed which is necessary for a fuller development, and which is now in course of erection, this mine will rank amongst the most important. The last to which I shall now refer, but not least in importance, is the Mid-Wales Lead Mining Company's property, which adjoins Brynpostig to the south, and is on the nearest parallel lode, the prospectus for which is now being issued. This company will be started under the most favourable circumstances, and with every prospect of early success. They have a splendid lode opened on for nearly 100 fms. in length in the adit level, with a good course of ore, from which many tons have been raised from the driving above, and on which operations will be immediately commenced.—Shrewsbury, July 4. JOHN KITTO.

CORNISH MINING, AND ITS PROSPECTS.

SIR,—Referring to a letter which appeared in the *Journal* of last week, under the above heading, allow me to suggest to you that it would be very desirable that communications on such important subjects should bear the name of the writer, in order that the shareholders in the mines referred to may know to whom they are indebted for the very valuable information contained therein, and more particularly to save the persons who study the interest of the properties the trouble of contradicting the incorrect statements that often are made by anonymous writers.

The remarks on North Roskear and North Crofty, made by "Investigator," clearly show to anyone acquainted with Cornish mining that his knowledge of those particular properties is indeed very vague, and his reference to Great North Tolgus might lead the initiated to believe that there was more than one object in his communication; but as I am officially connected with North Pool, which "Investigator" does not shrink from classing with the sound progressive mines ("if not spoiled in its management"), I beg to say that Messrs. Joseph Vivian and Sons are the managers, and that fact is quite a sufficient guarantee for the efficient working of the property. I should not have troubled you with these remarks, neither should I have condescended to make comment upon any anonymous communication which might appear in your valuable journal, if your readers were all acquainted with mining matters; but as some, and I think a very vast portion of the public, rely upon you for their mining information, your space would not have been wasted by the insertion of this.—London, July 5. CHARLES THOMAS.

WHEEL TREVENNA, AND ITS MANAGEMENT.

SIR,—On the 1st proximo the works of this company will have been in operation three years. The shareholders were, by the prospectus, led to believe in great results with small outlay. These expectations were strongly encouraged and justified by the report of the managing director (Mr. H. Wilcock), presented at the first general meeting of the company, in October, 1866. The amount of work done up to this period, as exhibited in that report, was indeed wonderful, and contrasts most severely with every subsequent report, whether emanating from the directors, secretary, or local agent. In this report, embracing a period of nearly fourteen months, we had the following results clearly and precisely stated:—Roads made, 868 fms.; water-courses cut, 267 fms.; sunk highburrow shafts 25 fms.; sunk shaft east of same 20 fms.; sunk five shafts on the great deep level; driven on same 150 fms.; cleared cross-cut 80 fms.; adit on copper level; 71 fms.; 40 fms. level cast, commenced a new shaft; laid down dressing-decks; erecting machinery, &c.; and returned in tin sales 4707, involving an outlay of only 17127. 4s. 3d., including dues. Now, quoting again from the same report as

Meetings of Mining Companies.

SOUTH FOWEY CONSOLS COPPER MINING COMPANY.

A meeting of the shareholders and others interested in this enterprise was held at the London Tavern, on Thursday, "for the purpose of endeavouring to complete the formation of the company."

Mr. NICHOLAS KENDALL, M.P. for East Cornwall, in the chair. Mr. W. POLKINGHORNE (the purser) read the notice convening the meeting.

The CHAIRMAN said that he had not the least idea he would have been called upon to occupy the chair upon the present occasion, and he much regretted that he had been voted to that position in the unavoidable absence of Mr. Brydges Williams, who had so fully gone into the question of the merits of the South Fowey Consols Mine, and, therefore, could have so ably explained its every detail. He (the Chairman) thought, however, he could justly say that no one—not a practical working miner—knew more of the locality and its mineralogical capabilities and characteristics than he did; and although they were all aware that there was no certainty as to the results attending any mining operations, yet he thought he could give certain information which might be of value. (Hear, hear.) But before proceeding further he would call upon Mr. Polkinghorne to read the prospectus, which pointed out the merits of the mine.

Mr. POLKINGHORNE then read the prospectus, which has already appeared in the Journal. It pointed out that the set extends nearly a mile in length from east to west, and half-a-mile in width from north to south, having on the south-west Par Consols, and on the north-east Fowey Consols, which mines have been two of the most productive in Cornwall, having yielded upwards of 3,000,000. sterling in copper and tin ores, giving profits to the shareholders of more than 400,000; that a shaft, already sunk in the western part of the set, could be immediately made available, and when the water is drawn therefrom copper ores could be at once raised; that 12 highly promising copper lodes have been discovered within the set, from two of which, some years since, a quantity of copper ore of good quality was raised and sold, but from want of sufficient capital, these and the other lodes were not explored; that it was always the intention of the late enterprising and successful miner, Mr. Joseph Thomas Treffry, to have properly developed this mining property; that the Cornwall Railway passes through the property; Par station adjoins it, and Par shipping harbour is about a mile distant; hence the produce of the mines and all necessary stores can be conveyed at comparatively very little expense, which are advantages of great importance; that several working miners, who have been employed in the adjoining mines for many years, think so highly of the set that they have subscribed for shares and paid the deposit thereon; moreover, a large amount is promised to be subscribed for by inhabitants of the neighbourhood; this is a proof of the high opinion held by those who best know the ground; that leases for 21 years have been secured within the last year on advantageous terms, the dues ranging from 1-18th to 1-16th; that the company can have the important advantage of an abundant supply of water for general purposes and for annual rental; this will save an enormous expense; and that with a capital of 12,000, it is considered that the mine can be properly developed, and from the outlay of which, or such portion thereof as may be required, it is confidently expected that early and large profits will be the result.

The reports appended to the prospectus are from the leading authorities in Cornwall. That of Mr. Peter Clynio (of South Caradon) states that "Having been one of the principal agents of the Fowey Consols Mine for 18 years, which join the ground intended to be worked by the South Fowey Consols Company, I know the whole set well, and that there are several very promising lodes contained in it that are well deserving of vigorous development; and if that is done, my firm belief is the parties will be well remunerated for their outlay." Mr. John Petherick states that "The mine contains several large and, with one or two exceptions, hitherto untried lodes of considerable promise; and from my personal knowledge of the ground in question, and taking into account the facility with which it can be explored to a satisfactory extent, at a comparatively small expense, by means of water-power obtainable from the adjoining mines, which I presume will render it unnecessary to have recourse to steam-power, and bearing in mind, also, the highly metalliferous character of the district, I have no hesitation in stating that I consider it to be an excellent speculation for the investment of capital, and that, if explored in an effectual and systematic manner, and with a due regard to economy, there is, in my opinion, every probability of its becoming, within a reasonable period, remuneratively productive."

Capt. Francis Puckey (managing agent of Fowey Consols, Par Consols, and Cudra Mines) considers that "The advantages for developing the mine are more than ordinary, and from the locality and mineral-producing character of the ground, I am of opinion that with sufficient capital to prove the mine, combined with perseverance and economy, that the shareholders will be well remunerated for their outlay, and that it will prove a lasting and profitable mine; indeed, I do not know a better speculation in the county of Cornwall." Capt. Charles Thomas (of Dolcoath) states that "The set lies immediately to the south of Fowey Consols, which has been so very productive for a long period, and is in the same geological formation. Several lodes have been discovered in the set, one of which is said to have been worked on to the depth of 80 fms. below adit, and to have yielded considerable quantities of copper ore. Some of the other lodes have only been seen in the adit level. Looking at the position of the mine, we consider it to be a speculation of no ordinary promise, and one which is likely, if extensively worked, to be profitable to the adventurers."

The CHAIRMAN said he would much rather that some person who had no interest in the set had occupied the chair upon the present occasion; but he might state that although he was the owner of a portion of the land, yet it was in such a position that it could not possibly be worked for many years to come, certainly not during his life-time. He had, too, an interest in the water-course, which, however, would have to be of the utmost value, inasmuch as it would enable the property to be economically developed. For those reasons he was sorry he occupied his present position; but since he had been called upon to preside he would avail himself of the opportunity to state that he had known the various mines in the neighbourhood from his boyhood, that he had been constantly underground, and that he had very largely profited by them. (Hear, hear.) There were four sets—Par Consols, Fowey Consols, Polharmon, and South Fowey Consols. From Old Fowey Consols he had in a few years received royalties amounting to more than 40,000; for 2500. invested in Par Consols he had received not less than 10,000.—(Hear, hear.)—and as to Polharmon, in the development of which four wealthy friends had joined him, he believed they had there also a good mine. Now, South Fowey Consols was a piece of ground which lay immediately between those mines—the ore was found under precisely the same mineralogical conditions, and the strata were identical. As to the lodes in South Fowey Consols, he might inform the meeting that many years ago, in driving one of the adits a lode of a very promising character was discovered, but that in the meantime it was agreed to concentrate the operations at Fowey Consols, the south ground—that now known as South Fowey—having been kept by the late Mr. Treffry as a "reserve," which it was his full determination to have developed. He did not know that he need state anything further, and the more especially as there were several present who could give a practical opinion as to the mineral capabilities of the district. (Hear, hear.)

Mr. POLKINGHORNE then proceeded to read a letter received from Mr. John Petherick, as follows:—

Surbiton, June 27.—I am in receipt of yours of the 24th instant, and very much regret that it will not be in my power to attend the meeting of the South Fowey Consols Company, at the London Tavern, on the 4th proximo, as I leave for Ireland on Monday next, and shall probably be detained there two or three weeks. In the present depressed state of the mining interest, particularly in your locality, it is of peculiar importance that every effort should be used to open up and explore new mines wherever the prospects warrant the necessary expenditure of capital, and I consider that South Fowey Consols Mine is in every respect a most eligible speculation, and that if worked in an efficient manner, and with sound judgment, it affords every reasonable prospect of success, and with such views I can have no hesitation in recommending it to the notice of my mining friends. JOHN PETHERICK."

Mr. POLKINGHORNE enquired that he had this day seen Mr. Edward Cooke, who had made personal enquiries as to the merits of the property. He regretted he was unable to be present at the meeting, but to show his appreciation of the mine, he had taken 75 shares, in addition to the 25 for which he had previously given his name; and Mr. Peter Watson (who was represented at the meeting) had taken an interest, and having a very high opinion of the property, had expressed his willingness to render any assistance in his power in furthering the interests of the enterprise. Mr. William Gundry, who had been visiting within three miles of the spot, had also taken an interest in the company.

Mr. WILLIAM WEST (St. Blaizey, Cornwall) said he was one of the oldest engineers in the district of South Fowey Consols, having been engaged there and at the neighbouring mines for a period of no less than 37 years. He bore testimony to the fact that in South Fowey a shaft was sunk to the depth of 80 fms. under the adit, from which thousands of tons of copper ore were raised; and for the working of that lode alone Mr. Peter Clynio had said he was prepared to take an interest, leaving all the other lodes entirely out of the question. But when the 80 fms. level was reached, and the lode, as he had already stated, had been proved, the late Mr. Treffry, and his managing agent (Capt. Puckey) considered that Fowey Consols was quite good enough for the time, and that it would be better to keep South Fowey in reserve. Mr. Treffry never intended to shut up that mine altogether, as Mr. Kendall (the Chairman) was well aware of, and thus it had been kept in abeyance for no less a period than forty years. Mr. Treffry would never allow anyone to have it, because his intention was to work it himself. He (Mr. West) could well recollect Capt. Puckey telling him that the cross-cut had passed through 13 lodes, many of which were of great promise. The stones of ore upon the table were taken from a depth of only 10 fms. from surface, and it was admitted on all hands that no miners could say what ore-stones of such a character were likely to lead to. There was another lode of a very fine, kindly character, which would, in a very short time, be intersected in South Fowey. Looking at the South Fowey Consols, as a whole, he could not see how it could possibly prove a failure; there were Par Consols, Fowey Consols, and Polharmon, and South Fowey in the centre, with precisely the same strata, and having the same lodes. Perhaps the best evidence that could be adduced as to the opinion entertained with regard to the property in Cornwall was the fact that about one-third of the shares had been taken up in the county.—Mr. POLKINGHORNE said that 1800 out of the 6000 shares had been taken up, principally by Cornishmen.

Mr. GEORGE BATTERS asked if Mr. Peter Clynio had taken any shares?

Mr. POLKINGHORNE replied in the affirmative.

Mr. GEORGE BATTERS said that spoke volumes. He (Mr. Batters) did not know that he had ever attended a preliminary meeting of any company that was inaugurated under such favourable auspices, or with such prospects of success. No promotion-money had to be paid nor free shares given, and all would equally share in the success. Each would bear his proportion of the burden; and, although there could not be any certainty as to results, yet they all started upon a fair and legitimate basis, and it was impossible to obtain stronger or more corroborative testimony as to the value of any unexplored mineral property than that which had been adduced upon the present occasion. He was glad that Mr. West had afforded the explanation as to the reason a piece of ground in such a prosperous district had remained for so long a period unexplored, for the public take an interest in such matters themselves the reason. Therefore, it was satisfactory to find the late Mr. Treffry had such a high opinion of the property that he would not allow it to pass out of his hands, his intention being to work it as a private adventure.

The CHAIRMAN thought he could give an additional reason why the late Mr.

Treffry did not work the property, but he would content himself by merely stating that it did not arise from an excess of amiability on the part of certain persons with whom he was connected.

Mr. LAMBERT said the fact that each of the directors, considering their local position and influence, had taken a great interest in the company, showed their faith in the ultimate results of the property. Mr. Brydges Williams (whom he regretted was not present) had told him that he had a very high opinion of the mine, and that he would support it in every way. Seeing they had such a direction as the Rev. Dr. Treffry, Place, Fowey, Cornwall; and Messrs. N. Kendall, M.P., Pelyn, Cornwall; E. W. Brydges Williams, Nankever, St. Columb, Cornwall; William West, St. Blaizey, Cornwall; and William Browne, St. Austell, Cornwall, he (Mr. Lambert) thought those interested in the enterprise were not only fortunate in having such gentlemen to direct their affairs, but that it was a guarantee to the public that they were justified in subscribing for shares. (Hear, hear.) He must confess he never saw a direction in which he placed greater confidence, and having that confidence, he intended to increase the interest he had previously agreed to take. (Hear, hear.)

The CHAIRMAN said the board would be only too happy to have the co-operation of some London gentlemen as directors.—Mr. BATTERS thought the present directors were ample.

Mr. W. BROWNE (St. Austell, Cornwall) reminded the meeting that the directors were not in that category of quadrupeds known as "guinea pigs," for they received no pecuniary remuneration whatever—(hear, hear)—except it be from the success of the speculation, in common with their co-adventurers. He had been well acquainted with the district for a great number of years, and he certainly had looked forward with a considerable amount of anxiety to the time when South Fowey would be worked, although he was perfectly aware that it was but recently it could be brought into use. It was only when the lease of Fowey Consols was about to be renewed that this south ground could be obtained, which Mr. West and himself had secured without expense to the shareholders, all of whom would join in the adventure upon the same terms and conditions as did Mr. West and himself, and he had no doubt it would prove a highly productive mine. It possessed unusual advantages for an economic development, and the cost of carriage of materials and ores would be inconsiderable—and that was an item from which many mines suffered very materially. Taking every fact into consideration, they could come to but one conclusion—that South Fowey Consols was a property which well deserved the attention of the public.

Mr. J. H. HITCHINS said he attended the last meeting, and he believed he had the honour of proposing the names of the gentlemen who now constituted the board. No one could gainsay the fact that those gentlemen were not only highly respectable, but that they were men of as high character and of as considerable experience as any in the county of Cornwall. (Hear, hear.) A little omission, he stated, had been made in the interesting discussion which had taken place with regard to their property, and that was, that, being within the limits of Par Consols and Fowey Consols, a part of the same nature, both of stratification and lodes; and, therefore, it was but a fair assumption that the lodes would become equally productive. He was not generally considered to be enthusiastic in mining, but he could assure the public that the South Fowey was a purely legitimate undertaking, and one of no ordinary promise. (Hear, hear.)

Capt. PUCKEY explained at some length (by means of a section) the importance of the respective points, and expressed a highly favourable opinion of the property.—Mr. DUNSTON said he had just seen a letter from his brother (Captain Dunstan), the manager of the Wallaroo Mines, Australia, in which he stated:—"I am glad to see in the Journal a prospectus of the South Fowey Mining Company. I have known this ground for a long time, and I am satisfied that if carried out with energy and economy the ground will turn out a great prize to the adventurers, and will place St. Blaizey in its former position as a rich mining district."—Mr. W. L. WEBB (Stock Exchange) then proposed—"That this meeting is of opinion that South Fowey Consols is a sound and legitimate mining speculation, well deserving the attention of capitalists."

Mr. LAMBERT having seconded the proposition, which was put and carried unanimously. Mr. BROWNE had much pleasure in proposing that the best thanks of the meeting be accorded to Mr. Kendall, M.P., for his kind attention upon the present occasion, and for the valuable information he had given.

Mr. LITTLE seconded the proposition, which was put and carried unanimously. The CHAIRMAN, having appropriately acknowledged the vote, reiterated his opinion that the South Fowey was a most legitimate and sound speculation; better he did not know, except where deposits of ore had really been discovered. The meeting then separated.

WHEAL EMMA (BUCKFASTLEIGH).

A general meeting of shareholders was held at the mine on June 20, Mr. J. H. STALLARD, M.B., in the chair.

The captain's report of the appearance and future prospects of the mine was considered very satisfactory, and it was agreed to apply to Lord Maclesfield for an extension of the set, so as to embrace another lode to the north of the present workings, which will greatly enhance the value of the property. The agent's report is as follows:—

June 20.—Since the last general meeting we have sunk the sump-shaft from the 104 to the 116, and cut pit at the latter level; and, in doing this, we have taken away a portion of the south part of the lode, composed of fluor-spar, friable quartz, prlan, and ore, worth 84. per fathom. This is a favourable feature for the mine in depth, and I should urge the propriety of sinking the shaft with all dispatch. We shall extend this level about 2 fms. and cross-cut north through the lode, to prove its value and character. This level is also extended east on the flookon course 6 fms., and the men are now engaged in cross-cutting north to the lode, to prove its value. The 104 is driven east of No. 1 cross-cut 3 fms. 4 feet, through a lode composed of fluor-spar, quartz, prlan, munde, and ore, yielding for the latter 1/2 ton per fathom. Although not very valuable in itself, this indicates, judging from the character of the lode at and about the same distance from the shaft in the upper levels, that the lode as it increases in depth is becoming more refractory and mineralised. We have intersected the lode at No. 2 cross-cut at this level, and are driving on its course; value 141. per fm. No. 1 stop, in the 92, is worth 161. per fm.; No. 2, 251. per fm.; No. 3, in the 80, 151.; No. 4, in same level, 101. per fm. We have 46 miners employed in tutwork and tribute, which, with our dressing plant, make a total of 100. We have during the last four months raised and sold about 240 tons of ore, for 14001. 16s. 8d., and we shall sample on Thursday next about 145 tons of good ore, the produce of the last two months; value about 7501. On the whole, I consider our prospects are very encouraging.—T. BENNETT.

THE MINERS' NATIONAL CONFERENCE.—On Friday, the President brought an important case under notice, the trial of "Wilson v. Merry and Cunningham," which took place at Edinburgh. A sum of 1000, had been awarded to the miners, and the President had been examined at the inquest, and the colliery appealed against the decision, on the ground that they had invested the manager with all power over the mine, but the manager disclaimed responsibility, as the profits of the colliery went to the owners. On the appeal the Court of Sessions confirmed the decision of the Lower Court, and the owners were now appealing against the decision to the House of Lords.—The President strongly urged the Conference to take up the case, and a resolution was passed empowering the President to defend the case in the House of Lords.—The accident at the Whittington Colliery, Newcastle, was next brought under notice. The accident had resulted through the neglect of lowering the men down the pit. The President stated that Lord Kinnaird had taken an active interest in the question, and he urged that, although the men in this pit were not Union men, yet in the general interest of the mining body, the Conference should do something.—A resolution was passed remitting the case to the National Council, the President remarking that, if a trial could be obtained, the evidence would have great weight in furthering legislation on the subject.—The accident at Worsley was the next case referred to. The agent for the district (Mr. Halliday) complained that the local press had been examined at the inquest, and that the evidence as to the cause of the accumulation of gas had been kept back. The Government Inspector had previously complained of the defective state of the shaft, and although this had not been attended to, the proprietors were held free from blame. A resolution was passed instructing the agent to collate all the evidence on the subject, with a view to its being forwarded to the Home Secretary, to show that justice had miscarried. After hearing several minor cases, the Conference proceeded to the consideration of the proposed alteration of the rules.—The President called attention to the fact that the Unions were considered to be their trial. Commissioners were sitting in London and Sheffield. He repudiated the statements in some of the papers that Broadhead was a type of Trade Unions generally. But, in view of the enquiry, he submitted it would be unwise to alter the rules at the present Conference, as probably within a month the officers of the Association would have to be examined. Were the rules altered now they would lay themselves open to the charge brought against some of the persons at Sheffield of having altered their books to suit the Commission. He urged that all the books and documents should stand as at present until after the enquiry was over, which was ultimately agreed to.—The auditors' report showed that the income of lock-out fund had been 55551. 11s. 2d. and the expenditure 56161. 15s. The sum of 2001. was allowed to Oldham, and 501. to Farnworth and Kersley to aid the men locked out there. The Conference proceeded to the appointment of officers, and this closed the proceedings.

THE MINES ASSESSMENT BILL.—At the meeting of the Mines Assessment Committee at Truro, considerable discussion took place as to proposing for insertion in the Bill an additional clause, providing that in the case of mines where by existing leases the lessees have covenanted to pay all local rates the lords, who by the Bill are alone to be rated, shall be entitled to claim from their lessees—the mine adventurers—repayment of one moiety of the rate. The committee appeared generally to concur in the opinion expressed at the recent county meeting in Truro, that the lord alone ought to be rated, and on the amount of his dues or royalty; and that in no case should he be entitled to recover from his lessees more than a moiety of such rate. This principle being held by the committee generally as in itself fair, and as a satisfactory arrangement as between mining and agricultural interests, various reasons were suggested why it would be inexpedient to run the risk of imperilling the passing of the Bill as now before Parliament, for the sake of introducing any further provision affecting the arrangements between landlords and their mining lessees. It was also urged that by far the larger proportion of mines do not at present pay rates, and that, in those cases where, by covenant with the lords, they do pay, after the termination of existing leases new arrangements would have to be made in conformity with the Act, which would require all local rating to be on the lords' dues; and on these grounds it was considered unadvisable to imperil, by any attempt at exceptional legislation, the establishment of the principle of rating lords' dues, and these alone. In regard to the so-called exceptional legislation in favour of Stannary Mines in Cornwall and Devon, Mr. Bolitho suggested the propriety of putting before Parliament more strongly than it appears, has hitherto been done the very great distinction that exists between these mines and the iron mines and coal mines—the speculative, risky nature of the former, and the certainty with which calculations can be made of the quantities of iron ore or coal to be worked, and of the profits to be derived therefrom.—Mr. Bogen also spoke of the difference existing between the speculative character of Cornish mines, and of the impossibility of fixing on them, as might be done with coal mines, a settled annual rent (say) for 21 years. All that could be done in their case was to make the nearest possible approximation to that principle by rating dues actually derived by the landholder.—Mr. P. P. Smith feared that members of Parliament generally did not at all appreciate the distinction just

mentioned, and, in proof of the hazardously speculative nature of Cornish mining, he stated, speaking from recollection, that Mr. Heard had recently informed him that not more than nine mines in Cornwall were now regularly paying dividends, although a very few others paid dividends occasionally.—Mr. Smith thought it might be well to furnish members of Parliament with the number of mines now working in the Stannaries, and the capital which had been expended on them, and also with the actual number of those which were paying dividends.—Mr. Bolitho thought such a plan desirable, for, though members of Parliament (excepting the Cornish M.P.s) did not appreciate the distinctions between the Cornish mines and the mines of iron and coal, it was well known in the county that no one would take Cornish mines at a rent equal to their present dues. But iron and coal mines might be taken at a rent higher than their dues.—Mr. Grylls also observed that iron mines were, in fact, no speculation.—Mr. Bolitho, in reply to a question from Mr. Grylls, said, in fact, no certain that if the present Bill should pass dues, and dues only, would be rated. He added that persons in Cornwall would be surprised to find how many members of Parliament were on mining matters. There were in the Parliamentary Committee on this Bill men who had never seen a mine in their lives. It was intimated that Mr. Bolitho would be a most useful representative of mining interests in the House, but he observed that no one could render better assistance in London at the present juncture than Mr. Bogen, who, he believed, was going to town.—Mr. Stokes mentioned that in the General Assessment Bill the schedules would include clay-works as assessable in the same manner as iron mines, and he remarked that from clay-works the lords received about 1/4th dues. At the close of the proceedings it was hinted that dividend-paying mines might fairly be expected to contribute towards defraying the committee's expenses.—Western Morning News.

[ADVERTISEMENTS.]

From Mr. EDWARD COOKE:—Having been engaged on a jury at the Court of Common Pleas during the week, I am unable to give a fair report of the business in the market. An important feature to notice is an advance in the price of tin. As regards this metal, there appears to be a more favourable prospect than for that of copper. A report of the financial position of PROSPERITY UNITED MINES has now been circulated among the shareholders, and it will be seen that, although no dividend will be paid at present, the sum of 18001. has been laid out, and charged for additional machinery, including water-wheel and stamps, since the last meeting. This sum is equal to about 5s. per share. Now this has been done the returns of tin will be considerably increased. ROSA CROFTY shares have been dull of sale. It was supposed that a dividend would be declared at the next meeting, but circumstances have transpired which prevent this being done. The mine, however, is looking well, and gradually improving. The report from West Wistow, which this week is of a most satisfactory character. This is opening up an excellent tin mine, and will in all probability become equally as productive as the other mines in the same locality. Instead of the shares standing at the price they do, they are really worth double the present price. A meeting of the SOUTH FOWEY shareholders took place on Thursday, at the London Tavern, when the very much esteemed M.P. for East Cornwall, Mr. N. Kendall, took the chair. As will be seen by the prospectus, the ground which comprises the above mine was considered by the late Mr. Treffry as being very valuable for mineral. I shall be very to send more particulars to anyone requiring them.

Gold mines continue in good favour. The report from ROSA GRANDE is a very good one indeed. It will be satisfactory to the shareholders to know that the manager of ROSA GRANDE is a most reliable man. During the period of his engagement at the celebrated Fowey Consols Mines he possessed the confidence of all who knew him. Judging from his last report, ROSA GRANDE promises to be another successful gold mine to those already in the Brazils. Shares in the TAGUARI COMPANY have been largely applied for, and no doubt the tin will soon be closed. I would, therefore, be glad to see the application made for shares. GHIOSTALE have been in good demand. The tin due on about the 14th will probably bring a satisfactory remittance of gold, and will look forward with confidence to see regular and large remittances for the future.

From Mr. R. EMERSON:—Calling to mind my letter of last week, I will endeavour to follow up the remarks therein contained. No doubt, the dividend mines in Cornwall and Devon will soon be able to greatly extend their operations, and seeing that many of them are in such a good state, it seems to me but one opinion as to the policy of investing money in them. I mentioned in my last week's notice DOLOCOATH as being one particularly worthy of consideration, but this mine is divided into so few parts, or shares, that it is a difficult matter to gain an interest in it, and the price of the shares is, of course, very considerable; therefore, in giving an order for this stock, purchasers should be careful to give a liberal limit, and three or four times the amount. Such instructions are not necessary with regard to most other mines, which I am now prepared to advise the purchase; and for the satisfaction of my readers which I now acting on my practical knowledge, I have much pleasure in saying that I consider there are many progressive, as well as dividend, undertakings which are entitled to the serious consideration of those who favour mining investment. Last week I took the opportunity of mentioning West St. Ives, and I have since been favoured with further information respecting this property. It is a well-known district, and since I introduced the shares of the Great Devon Consols to my clients, some 20 years ago, at 501. per share, I cannot but admit, in all candour, that I have never known a mine, considering the price, so well worthy attention as West St. Ives. These are facts which I deal with very fully, which justify my opinion, and I think the shares must command a very high price. A gentleman, whose practical knowledge entitles him to all respect, gives it as his opinion that West St. Ives is very likely to be a second St. Ives Consols, and that the little tin they have just cut into will make a produce of 751. per cent.; the fact I need offer no remark on, and the opinion I quite endorse. St. Ives Consols has paid, on an outlay of 81. per share, the sum of 491. 16s. per share by way of dividend. This mine adjoins West St. Ives, and the two are I have given relative to it will be the more interesting when I remark that it has not only been found productive at the shallow levels, but also in depth. According to Mr. R. Hunt's latest publication (see "Mineral Statistics for 1865") the returns for 1865 yielded 10,7001. PROVIDENCE MINE, also in this district, and the prosperous career of which is known to all mining authorities, I also recommend to the public as a safe investment. The great pressure of business will not admit of my going into the merits of more mines this week, but I shall most probably return to the subject at a future time.

From Messrs. WARD and JACKMAN:—We have invariably refrained from any controversy with regard to the various mines yelet "Favourite," but the reports received lately have differed materially from those of the inspecting agents, especially from the FAIRFAX and WALLIS, who of late have been favourite for excellence for a long period, that in all sincerity to "one and all," whether "bull" or "bear," we annex the report of a practical miner, who has carefully inspected the property for us, and in whose unbiased opinion we place the greatest reliance. Those who agree that "the agents of the mines are the best judges" must bear in mind that in cases of severe illness people call to a physician, in addition to the family doctor, and as so many different accounts have been given lately of the health of this mine, we have thought it high time in the interests of our clients to call in further advice, and, at the risk of displeasing some, we now copy the report received:—

"Having on Thursday, June 27, carefully and thoroughly surveyed the above mine, I beg to hand you the following report:—The engine-shaft is sunk about 4 ft. below the 55, and a cross-cut driven north about 6 fms. The engine calculates in about 5 fms. to cut a lode, which may be of great importance in a two-fold sense. First, if productive it will be a great acquisition to the mine; secondly, the influx of water from such a lode may almost drown the little engine, which would involve a new house and a larger engine, and the cutting of the already too small shaft. The 55, east of cross-cut, being stopped for 15 feet in height, and is worth for 6 ft. 204s. per fathom. In the 55, west of cross-cut, the lode is 6 ft. wide, worth 101. per fathom, and the appearance is anything but assuring; the back is being stopped by six men; the lode is worth 351. per fm.; the character of the lode is such as to induce me to believe the next 251. per fm. will not be so productive. In the 45, west of cross-cut, the lode is 6 ft. wide, probably hard capel, &c. In the north, or leading, part is 18 in. wide, worth 201. per fathom. The men in this end are also engaged in stopping the back, where the lode is worth 251. per fm. In the 45 east the lode is very small, about 10 in. wide, worth 81. per fm.; two stops in back of this level are each worth 301. per fm. I will now endeavour to answer your questions as briefly as possible. First, it will take about 10 months to sink a shaft and drive a cross-cut to intersect the lode in the 65. Secondly, a good lode may be met with, but the chances are rather against it; lodes of such a composition rarely prove productive in depth. Thirdly, no doubt a dividend or two may be given by working the mine at present—the same men are at one time stopping the back, and at another driving the ends. Take an instance. The shaftmen, who ought to have been sinking the shaft, have been driving the north cross-cut, the result is that only about 6 fms. have been driven for the last eight months. No doubt you will be able to judge of its importance by the progress made. I dare not give an opinion of a lode I have never seen. This, like many other things in connection with mining, is purely a speculation of a very ordinary character. Fourthly, the quality of the ore will considerably depreciate in value when the rich ore is not in the back of the 45 is exhausted. I should say the quality in the 45 is not so good as in the 45 by at least 4 per cent. That the mine is being worked to death; but that the mine is being worked to suit market operations must be patent to every impartial inspector."

From Mr. J. B. REYNOLDS:—The market during the week has exhibited no very interesting features, and prices have undergone no very considerable change. Matters on the Stock Exchange have been extremely quiet, and railway securities are by no means restored to favour. It appears to the unprejudiced observer that mining securities will come more and more into favour, because of the favourable comparison they bear with other descriptions of investments. Just at present, when to the outward observer there appears to be a difficulty in selecting good channels for investment, it must be pleasing to direct to a branch of the industry so remunerative and attractive as mining. Reserving to myself the undeniable right of cautioning my clients against certain "got up" schemes called "mines," I shall, with the greatest confidence, place certain sound British mines before them, which I have every reason to believe will pay, not only extraordinary profits, but also have a most enviable position with the public before long. Throwing aside prejudice, and appealing to facts, I would call upon my friends to consider certain properties not at present prominently before the public, but selling at ridiculously low prices. Before intimating the variations in prices have not been numerous this week, but EAST BASSETTS have been firm, at a slight advance, and WEST ST. IVES have changed hands at very slightly advanced rates. The latter is very highly spoken of, and has been favourably reported on, by competent authorities. There has been a good business doing in SOUTH FRANCES, whilst WEST CHIVERTON has been rather more in favour of buyers. This is a splendid property, my information concerning it is very favourable. An improvement is seen in one of the side lodes at ROSE CHIVERTON, and instead of 15 tons of lead being the result of one month's operations on the halva, as on any previous 17 tons, or at the rate of an increase of about 5 tons per month, has been monthly. The directors have, as I think very properly, decided to have monthly samplings here. This will do away with the necessity for a general sale, and custom to this business will appreciate the fact. The improving condition of this property will continue, I have no doubt, and a brilliant future is before it, according to most competent authorities. WHEAL SETON was a fine investigation of all, and, as a very admirably managed property, and has been a class investment, it has long ago taken its stand. A large business was done in RETALLACK, I noticed these shares when at 1s. as a speculation worthy

THOS. S. BOLITHO, Chairman.

Mining Correspondence.

BRITISH MINES.

BEDFORD UNITED.—Jas. Phillips, July 3: Our stopes throughout the mine are yielding about the same quantity of ore as for some time past. We shall take down the lode in the different levels on the north lode, and give a full report next week.

BEDOL-ACR.—H. R. Harvey, July 3: The 100 yard level, driving east, is progressing satisfactorily. The Seven Star winze continues to be profitable for sinking, and the lode is poor. Jones's pitch is yielding 15 cwt. of lead ore per fathom. Edwards's pitch has improved, and will now produce 1½ ton of lead ore per fathom. The other parts of the mine are without alteration.

BLACK CRAIG CONSOLS.—J. Smitham, July 4: In a day or two we shall get the eastern-plat below the 54 cut, and commence the bearing holes. I am daily expecting to get through to the lead ground in Harriet's cross-cut, driving north in the 54. The lead course in the 54, east of No. 1 cross-cut, is split into two parts; we are driving on the south one at present, which is producing about 10 cwt. of lead per fathom; we will prove the north part of the lode when we get forth a little further. I have stopped the 54 driving west from No. 3 cross-cut, and put the men to strip down the east side of the said cross-cut, where we have some good branches of lead and spar. We are still getting bits of lead in No. 3 cross-cut driving north in the 54 west, but not to value. The stopes are producing from 15 to 20 cwt. of lead per fathom. We shall get from 18 to 19 tons of lead in the house by to-morrow evening.

BOTTLE HILL.—J. Eddy, July 4: Friday last, being our setting-day, the following bargains were made: A stone in the back of the 2½ to four men, at 55s. per cubic fathom; lode about 3 feet wide, and worth about 4l. per fathom. A tribute pitch in back of the 12, east of the new shaft, to four men, at 13s. 4d. in 11; tributaries to pay all cost for dressing.—South Lode: Set to four men to drive the 12, west of cross-cut, where the lode is about 2 feet wide, and producing both tin and copper ore, but not sufficient of either to value; price for driving 3l. per fathom. Also a pitch, to three men, in the back of the 12, at 13s. in 11. I am happy to state that we have had a moderate supply of water, both for drawing and stamping, since Monday last; we are now working again with spirit. I hope to send samples of our parcels of tin to the different smelters one day in the coming week.

BRONFLOYD UNITED.—Thos. Kemp, July 3: Settings for July: The stope under the 52 to ten men, at 60s. per cubic fathom; lode worth from 2½ to 3 tons of lead ore per fathom. The stope west of winze in back of the 52 to four men, at 50s. per cubic fathom; the lode has improved at this point, and is now worth 20 cwt. of ore per fathom. The stope east of winze, in the same level, to four men, at 50s.; lode worth 12 cwt. of ore per fathom. The new shaft is down 9 fms. 3 ft. under the 52; the ground is of the same character as before reported. The surface operations are progressing satisfactorily. I shall shut the ore Saturday.

BRYN GWOIG.—S. Harper, July 3: The lode in the 102, east of engine-shaft, is about 3 feet wide, composed of spar, blende, and a little lead ore, but not to value. We have put the shaftmen to resume the sinking of the winze in bottom of this level (102); the lode is about 10 ft. wide, but we shall only carry about 6 ft. of the north part, which is worth about 2 tons per fathom. The pitch in bottom of this level I have suspended for a time, and put the men to carry on the level west solely on tribute, the lode being worth 4 tons per fathom. The lode in the 90, west of engine-shaft, and west of No. 1 winze, is about 2 ft. wide, worth 2 tons per fathom. The lode in No. 1 winze, in bottom of this level, is 5 ft. wide worth 2½ tons per fathom. The Nos. 1 and 2 pitches in back of this level continue much the same as for some time past. The lode in the 90, east from No. 3 winze, is 1 ft. wide, worth ½ ton per fathom, and promises further improvement soon. The lode in the 66, east of engine-shaft, is in a disordered state, being intermixed with the shale bed; of course we do not expect to meet with great results at this level until we reach under the lead-bearing ground. Brumwell's shaftmen have been engaged for the past week or ten days in putting in stulls, clearing their stuff, and also doing sundry necessary surface work, fixing pit-head, &c., consequently little has been done in the sinking of the shaft since my last report. There has been a slight falling off of late in two or three of our old pitches, others continue to yield their usual quantities of lead. I have a pair of men drawing water from the bottom of the 66 west, near the old engine-shaft. From present appearances the old party must have had a course of ore 20 fms. in length. The lode we have seen looks very rich, being composed of nice spar, intermixed with fine knots of lead ore; this part of the mine has been at rest for the last forty-five years, being wrought at that time by the old-fashioned wooden pumps, which were then quite sufficient to meet the supply of water. This information I received from their agents; and now an old man, of 75 years of age, states that there is a good lode in these bottoms, which, if possible, we are determined to develop.

CAPE CORNWALL.—R. Pryor, W. White, July 3: The lode in the 100, east of engine-shaft, is improving in its appearance and character, and producing stones of tin; a still further improvement may be expected at this point, it being near the granite. The lode in the 80, east of engine-shaft, is about 2 ft. wide, worth 2 tons per fathom. The lode in the 70, west of the 70, west of the shaft, is large, and yielding fine stones of yellow copper ore.

CARADON CONSOLS.—S. Bennett, July 2: The lode in the 90 west continues to produce a little ore, but not sufficient to value, the ground too being somewhat harder—very similar to the last 3 to 4 fms. in the winze just holed behind the end. Both the ground as well as the ore has evidently a westerly dip, and the ore we have seen so far in this level is no doubt a continuation of that seen in the 80, east of the cross-course; and, consequently, some fathoms further will have to be driven with the same run of ore ground in the 90 as was passed through in the 80 west; this appears very clearly in the stope over that level. The 80 west continues unproductive. The ground in the rise is improved, and that in the shaft just as before.

CARGOLL.—R. Tyzzer, July 3: At Mitchell's (the 140) we are cutting plat at the north end of shaft; the lode is 3 ft. wide, yielding good work for lead ore and blende. The lode in the 130 shaft is 4 ft. wide, producing good work for lead ore, pretty much blende, and occasional stones of copper ore. The north end of this level is producing about 1½ cwt. of lead ore per fathom, and the stopes in the back of this level are yielding 1 ton of lead ore per fathom. The 90 m. level end, south from Mitchell's, is yielding a small leader of lead ore. We have no chance to report in the north part of the mine.

CLARA UNITED (Llywernog).—J. Davis, July 3: The water is all out of the pond, the machinery is idle, and the water in the mine up nearly to the roof of the 50, but there are 14 men working yet. The settings for July are as follows:—The stope (No. 3) in the back of the 50 to six men, at 65s. per fathom; value for lead 25 cwt. per fathom. The stope in the back of the 40 to four men, at 65s. per fathom; value for lead 15 cwt. per fathom. The winze under the same level to four men, at 140s. per fathom; value for lead 15 cwt. per fathom. We have about 3 fms. more of this winze to sink to communicate with No. 3 stope.

CROWAN AND WENDRON.—R. Reynolds, July 2: The lode in the shaft sinking below the adit is still holding good. No change to report on in the winze. I hope by the end of the week the adit on the south lode will be cleared in as far as the eastern shaft.

DALE.—R. Nines, June 29: We are not yet through the vein in the 44 fathom level cross-cut. The 52 men are now engaged sending down the new pitwork.

DEVON AND CORNWALL UNITED.—T. Neill, July 2: The stope in the bottom of the deep adit will produce 1 ton of ore per fathom.—William and Mary: We have no change in any of the ends or pitches to notice.

EAST BOTTLE HILL.—J. Eddy, July 4: The lode in the end in the 10, east of the western shaft, is from 3 to 4 ft. wide, composed of gossan, mundle, capel, and occasionally rich scraps of tin; but so far in driving we have found it not lasting. The ground is easy for working, now driving at 35s. per fathom. Judging from the character of the lode now in the end, we may expect a speedy improvement in the lode in driving east. The lode in the 10, east of the present end is about the same size, and turning out some good work for tin. For the last fortnight we have been very short of water for stamping our stuff now at surface, but I am happy to say that we have now a moderate supply.

EAST CHIVERTON.—J. Grose, J. Nancarrow, June 29: In consequence of meeting with a branch in Bartlett's shaft, the water has increased so much that we have been obliged to suspend the sinking of the same until we get the flat-roads ready to attach to the engine, which we hope to complete within a fortnight. The men are working day and night about surface work towards getting the engine to work in soon as possible, which this is done, and the shaft is to sink faster, and at a cheaper rate. The shaft is now down from surface 23 fms., and in a little further sinking we shall intersect the lode that has been so rich in West Chiverton, and which is so now also in Chiverton Moor and Wheel Chiverton, and, looking at the channel of ground in the bottom of our shaft, there appears every prospect of meeting with a productive silver-lead lode at this depth.

EAST GUNNISLAKE AND SOUTH BEDFORD.—J. Phillips, July 4: In the 54, west of Gard's shaft, we have not yet met with the lode on the western side of the cross-course, which we find has a more easterly bearing than in the 36; consequently, the displacement at this level is done in a different direction. In the shallow adit, east of Gard's shaft, we have been driving by the side of the leader during the past week; we have to-day picked into it about 6l. in, and find good work. We have cut a very kindly and promising lode (the Impham) on the opposite side of the river, in the East Gunnislake sett; the gossan part is 2 feet wide, and we consider it a very valuable discovery.

EAST NEPTUNE.—P. Floyd, July 4: Hooking's shaft is now down 5 fms. 5 ft. below the 15; ground favourable, and quite congenial for mineral. The winze sinking below the 15, from present appearances of ground and branches met with, presents good indications that the lode when cut at the 25 will prove productive, and this, it is expected, will be done in the course of a month. Other operations are progressing satisfactorily.

EAST ROSEWARNE.—C. Glasen, July 4: In King's shaft, sinking below the 95, the lode is very much the same as reported last week, worth 5l. per fathom. There is no change to notice in the 95, west of King's shaft, since my last report. In the 95, east of King's shaft, the lode is 10 in. wide, worth 4l. per fathom; we are putting up a rise in the back of this level to communicate with the 85, to ventilate the bottom of the mine; the lode is now worth 5l. per fathom. In the 85, west of King's shaft, the lode is 18 in. wide, worth 6l. per fathom.

EAST SARELL.—W. H. Rowe, July 3: The lode in the 15 forehead, though still unproductive, has now taken its proper or average bearing, which I am glad to see, as it shows we are at last quite clear of the disturbed and disordered ground so unexpectedly met with on driving out from the shaft. The quartz now coming into the lode is a better kind than of late. In the 9, under adit, we have a rich branch of lead, mixed with gossan and quartz. So far, it appears to take a very horizontal angle, indicating we have a greater distance to drive at the 15 than I judged before we get up with this run of ground; but we shall know more of the very shortly.

EAST ST. JUST UNITED.—R. Pryor, R. P. Goldworthy, R. Wearne, July 3: Eastern Mine—Phillip's Engine-shaft: The plat is completed at the 30; the men are now engaged taking down ground at the east end of the shaft preparatory to fixing the plunger bottom.—Agaworth Lode: The 20, east of the Guide, is of a promising character; ground favourable.—Western Mine: The lode in the 90, west from Savelle's engine-shaft, is worth 12l. per fathom. The lode in the 90 east is worth 16l. per fathom. In the 76, west from Savelle's, the lode is improved, and now worth 7l. per fathom. The lode in the 62 fm. level stope is without change to notice.—Buck Lode: In the 62, driving east, the lode is without change.—Owl Lode: The lode in the 40, north from Reddipier shaft, is opening up tribute ground. The lode in the 20, north from West Buck shaft, is not looking quite so well, being rather disordered. The lode in the 20, south from Savelle's, is looking promising, and ground favourable. The 10, north from West Buck shaft, is worth 7l. per fathom. In the adit, north from same shaft, the lode is worth 4l. per fathom.—North Lode: The lode in the 40 east is without change. This remark will also apply to the 20 east.—Reddipier Lode: The lode in the 20 east is producing a little tin, a very kindly lode.

EAST WHEAL GRENVILLE.—G. R. Odgers, W. Bennett, July 3: The lode in the engine-shaft, sinking below the 95 fm. level, is from 18 in. to 2 ft. wide, of quartz, peach, and flookan, containing ore and tin—a most promising lode, having all the characteristics of the lode just preceding the ore in the upper levels. The lode in the 95 fm. level west is 2 ft. wide, worth 2 tons of good ore to the fathom, and looking kindly for a further improvement. The lode in the stope above the level is worth 2 tons of ore to the fathom. All the other places are much the same as last reported.

EAST WHEAL RUSSELL.—J. Goldworthy, July 3: Homersham's shaft, in Maynard's cross-cut, driving north, the main or middle lode is intersected and cut into about 2 ft.; so far as seen it is composed of capel, quartz, iron, and mundle, and water flowing freely, which at present renders the progress rather slow. In Ede's cross-cut, in the 140 north, the lode has been cut into about 10 ft. in the furthest point reached, which is composed of capel, quartz, and iron, spotted with malleable and grey sulphure of copper ore, and spare to explore. In the 140, driving east, the lode is 2½ ft. wide, composed of capel, quartz, mundle, and produces ½ ton of copper ore, or worth 2l. per fathom. In the stope in back of the 140, east of Friend's winze, the lode is worth 4l. per fathom. In Davey's cross-cut, driving north in the 130, the stratum is easier, and highly mineralised—good progress is being made.

FRANK MILLS.—J. P. Nicholls, John Cornish, F. Cornish, July 3: The east lode, in the 145 north, is at present disordered, and only yielding a small quantity of lead ore; the ground, however, is very congenial. In the 145 cross-cut west we have intersected and gone through a part of a lode, which is 2 ft. wide, consisting of quartz, gossan, and mundle, and is opening out into a most promising description. The stope in back of this level is yielding ½ ton of lead ore per fathom. The 130 north, on east lode, is unproductive of lead ore to value. The 130 north, on west lode, is yielding saving work occasionally, and presenting a good appearance for an early improvement. The two stopes in back of this level are each yielding ½ ton of lead ore per fathom. In the cross-cut west, from the 115 north, on west lode, we have not intersected any more lode as yet, and the same remark will apply to the 100 cross-cut east. The three stopes in the back of the 100 are each yielding ½ ton of lead ore per fathom. In the 45 south from cross-cut, north from engine-shaft, the part of the lode being carried is 2½ ft. wide, consisting of gossan, barytes, quartz, and occasional stones of lead ore, but not enough to value. There is no other change in the pitwork bargains since our last report. The tribute pitches, on the whole, are also looking much the same. We sampled 95 tons of silver-lead ore on Thursday last.

FURSDON.—J. Collins, July 4: The stope in bottom of the 21 west is looking better this week, though not rich. The lode in the pitch in bottom of the 11 east is worth about 12l. per fathom. The lode at the adit west of shaft is worth 30l. per fathom. At this place we are sinking by the side of the cross-course for stopes, the ground being easier for breaking.

GAWTON COPPER.—G. Rowe, June 29: There is no change in the appearance of the ground in the 70 fm. level cross-cut, and our usual good progress in driving towards the lode is being made. The lode in the 60 west is showing indications of improvement, being now worth 2 tons of ore per fathom. The lode in the 60 east is 3 ft. wide, of a most promising character, being composed of capel, spar, mundle, and ore. The lode in the rise in back of this level is worth 1 ton of lead ore per fathom. The 50 fm. level cross-cut south, going through the capels of the lode, is progressing very satisfactorily, considering the hard nature and character of the ground. We have for the last few days discontinued the drive of the 50 fm. level west from Moor's winze, and placed the men to open on the north side of the drive, in order to facilitate the communication with the 50 fm. level cross-cut, which we hope to effect in the course of next week. Our last sampling of copper ore weighed 132 tons 6 cwt.

GOTHIC.—J. Lester, July 4: In the engine-shaft the lead continues to increase. We are now down 3 fms., and shall complete the 10 fms. to the 40 during the month. In the cross-cut north, from the 30 we have intersected a nice branch of lead ore, and the ground looks very favourable for making ore. I will pay the men on Saturday, and continue four men to drive north in the cross-cut for the present; the ground is rather stronger than it was.

GREAT LAXEY.—J. Barkell, July 2: There is nothing new to report in the 220, nor in the 210. The lode in the 200 fathom level end is improving as we go north, now worth 30l. per fathom, and we anticipate further improvements as we approach the ore ground gone down in the level of the 190. The lode in the 190 fm. level end, driving north, is continuing to look well, and is opening out into ore ground, worth for lead and blende from 100l. to 120l. per fathom. We have stated in former reports that we have been rising above the 180 to meet the sump coming down from the 165; we have recently holed this ground, and shall now commence to stope the sole of the 165, both north and south from the sump, in a lode varying in value from 70l. to 100l. per fathom. The lode in the 165 fm. level end is not looking so well, now worth 60l. per fathom. The 155 fm. level end is worth 70l. per fathom. The 145 is still unproductive.—South Ground: There is no change to report in the 145, which is worth 15 men working on it at present.

GREAT MONA.—John Trewin, July 3: The engine-shaft is now down 3 fms. 2 ft. below the 23 fm. level; during the last month the lode has very much increased in size and improved in character; at present it is about 7 ft. wide from wall to wall, and is composed of calcareous spar, with sulphur, copper, and lead ore, and is altogether of an exceedingly promising character. I have increased confidence in this property, and believe that the time is not far distant when I shall be able to report an improvement of great importance.

GREAT NORTH DOWNS.—William Rich, Cornelius Bawden, July 3: We have resumed the sinking of Sleggan's shaft below the 86; the lode is worth 20l. per fathom for the length of shaft—14 ft. The 86, west of Sleggan's, is the same value as when reported last week—30l. per fathom. The men are still engaged enlarging level west of shaft towards the No. 2 winze for a tramroad. The 86 east is worth 32l. per fathom. The lode in back of the 86, west of King's, is commencing to look well, which has given good ventilation; we shall now take down the lode in the winze, to prove its size and value. A stope in back of the 86, west of King's, is worth 10l. per fathom. King's shaft is down to water, but we think this will shortly be drained by sinking Sleggan's shaft. The 70 end, west of Sleggan's, is worth 7l. per fathom. The ventilation is bad since the hot weather set in. We are putting in air-machine to remedy this as quickly as possible; we have about 30 fms. to drive to effect a communication with Butler's shaft. When this point is reached the mine will have first-rate ventilation. No. 1 stope, in back of the 70, is worth 15 men working on it at present.

GREAT NORTH LAXEY.—R. Rowe, July 2: I have now returned from the mine. The engine-shaft is now 9 fathoms below the 84; lode 3 feet wide, and still of a very promising character, containing a little ore, and letting out a very heavy bed of water. Having had to change clanks and buckets on Saturday, we shall not be able to sink the shaft so fast as we had hoped to do, but we expect to be in for a long time to-morrow morning. In the 84 north there is no alteration in the driving, but the stopes are looking very fair; worth from 1 to 1½ ton to the fathom. In the 84, driving south, the lode is 3 ft. wide, with a little ore, but not to value. In the 73 south the lode continues to open out and improve, but not quite to that extent looked for when last over, still I have no doubt of our having a discovery of value here as we advance ahead. The stopes in the roof of the 60 continue worth 1 ton of lead per fathom.

GREAT RETAILACK.—R. Odgers, J. Harris, July 3: The No. 1 shaft is sunk 4 fms. 1 ft. 8 in. below the 9 fm. level, the ground in which has eased, and it is of a very favourable kind for the production of lead. We calculate we can sink at least 3 fms. per month, therefore we hope to see the lode in the 20 fm. level by the end of August. The lode in the No. 2 shaft is 4 ft. wide, producing rich silver-lead; this shaft is 9½ fms. below the 10 fm. level, and we shall commence driving the 20 fm. level early next month. The lode in the 10 fm. level shaft is small; during the last 3 fms. driving we appear to be in the midst of a large and rich lode, and we believe that as we can clear the ground upon us a little, but we expect to be in for a long time to-morrow morning. In the 84 north there is no alteration in the driving, but the stopes are looking very fair; worth from 1 to 1½ ton to the fathom. In the 84, driving south, the lode is 3 ft. wide, with a little ore, but not to value. In the 73 south the lode continues to open out and improve, but not quite to that extent looked for when last over, still I have no doubt of our having a discovery of value here as we advance ahead. The stopes in the roof of the 60 continue worth 1 ton of lead per fathom.

GREAT SOUTH CHIVERTON.—J. Nancarrow, July 1: The lode in Gifford's engine-shaft is 5 ft. wide, and although the ground is harder, the men are now making fair progress in sinking. We have commenced sinking a winze below the 20, on the north lode, which yields good stones of copper ore, and contains spots of lead. The 30 west, on the north lode, is hard, the whole end being composed of capel and carbonate of lime; but as this has drained the water from the 30 we think we are near to better ground for driving a better lode. The branch has come into the south lode in the 30 west, where it has a strong flookan, and a lode more likely to be productive of large quantities of lead cannot be seen. The engine and pitwork are working well.

GREAT SOUTH TOLGUS.—J. Daw, July 4: We have forked the 112 fathom level, and have had to repair some of the pitwork; this stope has let in a few fathoms of water, but with good speed we shall not be long in forking. If all things go on well next week we hope to put down another driving-lift from the 112 to the 125 fm. level, so as to redeem the clacks which failed in the plunger-lift. The water is still very quick on the engine.

GREAT WHEAL BADDER.—K. Pryor, H. Tregoning, June 29: The ground in the 75 cross-cut, driving towards the Badder tin lode, at Hill Brothers engine-shaft, continues just the same as for some time past; the water protrudes forcibly through the elvan in the present end, indicating a change shortly. In the 75 fm. level, driving west from the cross-cut, on the lead lode, the ground is full of branches, containing mundle, prian, and spar, letting out an increase of water, and the lode much the same in appearance as when last reported on.

GREAT WHEAL VOR.—T. Julian, July 4: The two ends driving east and west from the bottom of Ivey's shaft are holding on well, the west end letting out much water. No particular change in the 174 west. The 162 and 167 are holding on well as is also the rise in the back of the 174, west of Ivey's. The 204, west from Metal, is improved, both in appearance and value. All other parts much the same as last reported.

GWYDYR PARK.—W. Smith, July 2: We have cleared nearly 7 fms. of the old shaft. There is a level coming in sight at the present depth to the west. The water is still very heavy, but I expect to reach the bottom by the end of this week.

LOVELL CONSOLS.—John Nancarrow: This mine, in the parish of Wendron, is situated in the granite, 3½ miles east of the town of Helston; it is bounded by East Looe to the north-east, and Wheel Jane on the west. Trumpet Consols is also very near, and the value of the products of which pass through this sett. There are extensive workings in the backs of several lodes, plainly showing that they were profitable. Four of these lodes are worked a little below the adit,

which has been cleared and secured 400 fathoms, and drains the water 12 fathoms deep.—Main Lode: The engine-shaft is sunk on this lode 18 fathoms below the adit. The only levels driven are the adit and the 12 fathom level. The lode has worked from adit to surface for 20 fms. long, and, probably, for a much greater length. There is tin gone below the level, 12 fathoms east of the shaft, that will pay for working. The 12 is driven 8 fathoms east of the shaft, and has passed through tin ground that has been stopped in the back; the end yields tin to value, and should be driven under the tin gone below the adit. The 12 fathom level is driven 75 fathoms west, and has just passed through the great cross-course; it is last 50 fathoms have generally been through tin ground, sometimes worth 4l. in 5l. per fathom, and may be worked on tribute. The lode split 15 fathoms below the end reached the cross-course; there is a bunch of tin on the north part, but 2 fms. only are opened, the end being driven on the south part. The lode being thrown north by the cross-course, is not seen to the west of it, but the end being pushed on in that direction, and will intersect both parts within a month, and being from the excavations above it is likely to be very profitable towards the west. Middle Lode: This is 9 fms. north of the main lode. The back of the adit is nearly all taken away for 100 fms. long, but it is not worked below, except that a cross-cut is put into it at the 12 fm. level, 25 fms. west of the engine-shaft, and 8 fms. driven east on west, where there is tin that will half pay the adit. This level should at once be driven westward under the tin ground in the adit. The flat-rod lode, 20 fms. north of the main lode, is worked extensively above the adit, and the shaft sunk 5 fathoms below, where the lode has a strong appearance, and yields good stones of tin. The north lode is 70 fms. north of the flat-rod lode; it has yielded tin in the eastern part of the sett, and could be laid open by a cross-cut, which is already cleared 30 fms. towards it. The bellack lode is 60 fms. south of the main lode, is said to be stopped a little below the adit, and to have been very productive. The adit is driven south to this lode, 20 fms. of which are nearly cleared, and the whole is likely to be cleared and secured in two months. This is a good speculation, not only because of the productive character of the lode here, but it is a fine tin-bearing lode in the Tregoningsett, immediately to the east. This is a most inviting field for mining enterprises, for there are several lodes which have been rich in neighbouring mines, and here are intersected by cross-courses, and embedded in the strata in which they have been found to be profitable. The water is in the little, the sole cost for working the engine not exceeding 20l. per fathom. The ground is moderate, and little timber is required. Above all, it is one of the richest tin districts in Cornwall, and similar success to that met with in the neighbouring mines is every way likely to be realised here.

MARKET VALLEY.—J. Truscott, June 25: The ground at Salisbury shaft, sinking below the 124, has a little improved.—Market Lode: In the 112 east the lode will yield 2 tons of copper ore per fathom. In the 112 west the lode will yield 1 ton per fathom. In the 90 west the lode will yield 1 ton per fathom. In the 80 west the lode will yield 1 ton per fathom. In the 70 west the lode will yield 3 tons per fathom. In the 60 west the lode will yield 1 ton per fathom. In the 50 west the lode will yield 5 tons per fathom. The lode in the 40 east the lode is worth 4 tons per fathom. The stopes continue to yield their usual quantities of ore.

MINERA UNION.—W. T. Harris, July 4: Operations throughout the mine are making satisfactory progress, but without any alteration since last report.

NAXIGLES.—J. Rowe, July 4: The lode in the 130, west of the engine-shaft, is 3½ feet wide, producing good stones of ore; the lode is improving in appearance. We are expecting to meet with ore in paying quantities in this level shortly; the end is now about 5 fms. short of the perpendicular of the 120, where we first met with a good lode. The lode in the 120 is 3½ feet wide, and improved; it is worth 18l. per fathom, a very good looking lode, but rather difficult to drive. We have six men driving, at 10l. per fathom. The stope in the back of the 120 is working by stamens, lode worth 12l. per fathom, price for stamens 3l. per fathom. The lode in the same winze is producing good stones of ore. We are hoping this will improve when we get a little more below the slide which disordered the lode. No other change to notice.

NEW BIRCH TOR AND VITIFER CONSOLS.—Wm. Skeels, June 2: North Lode—Hambley's Shaft: In the 48 east the lode is rather improved, worth 4l. per fathom, and I am hoping that this end will still further improve. The men are making fair progress in cutting down the new shaft, and will, I believe, complete it in the time stated in last report—within a month. The main lode, in the 12 west, is 2 ft. wide, composed of quartz, iron, and tin; from its size and character we look forward to good discoveries in this direction. There is no particular change in the pitches to call for any remark on them. We sold, on Thursday last, 6 tons 7 cwt. 1 qr. 8 lbs. of tin, realising 341l. 2s. 4d.

NEW CROW HILL.—Wm. Trelease, July 2: The ground in the 70 east is a little harder this week, but good progress is being made in the driving. The winze, plat, &c., in the 55, will be completed to day, and the sinking below that level will be commenced to-morrow morning. The rise above the high stope is now up 10 fms., and I have thought it better to suspend it for the present. Our old stope (No. 1) does not seem to improve, though still showing a fine looking lode, with large rocks of ore stuff. The new stope, above the old, is producing about 6 cwt. of ore per fathom. We have got into the lode above at Louisa, and the composition of the lode cut through is hard quartz, mundle, jack, peach, &c., with about 4 in. of blue flookan on the footwall, and fine spots of lead can be seen in different parts of the lode, and some nice lead specimens have been broken, so far as we have gone. The lode is nothing near so wet now as when first cut into.

NEW EAST RUSSELL.—J. Gifford, July 1: In the 30 west we are driving on the south part of the lode, which is composed of peach, quartz, and capel, with mundle and copper ore intermixed, but not to value. In the deep adit, we are driving on the south part of the lode, which is composed of capel, quartz, lime, and mundle, and yielding good stones of copper ore, although not enough yet to value; a splendid looking lode; in fact, its composition is everything we could wish except a course of ore. Retailack's pitch, in the 20 west, on the cross-course, is still looking well.

NEW TRELLIGH.—Samuel Michell, July 4: The lode in the 60 is without change for the week, worth 2 tons of ore per fathom. The lode in the 40 west is 2 ft. wide, with good stones of ore, a kindly end. The 50 is 4 fms. below the ore ground in the 60. The lode in the 70, at new shaft, is 8 in. wide, with spots of ore. The men are cutting plat in the bottom of the trial shaft, which will be completed as fast as possible, after which they will resume sinking. Nothing new in the cross-cut in the 70, west of Carr's engine-shaft.

NEW WHEAL TOWAN.—R. Pryor, July 3: Within the last few days we have met with a cross-head in the adit level, to the west of which the lode has a much better appearance, and is producing some good stones of yellow copper ore.

NORTH DOWNS.—F. Pryor, J. Grenfell, July 2: Bennett's Shaft: We are still getting on very well with the driving of the 70, east of this shaft, and have nearly drained the water from the winze sunk below the 60, in advance of this end, so that we shall soon be able to resume the sinking of the above winze, which will facilitate the opening up of the 70, so as to see the lode over the elvan.—King's Engine-shaft: The rise in the back of the 60, on the south part of the lode, west of this shaft, is improved since our last, now producing full 1 ton of good ore per fathom, with a promising appearance. The winze sinking below the 50, west of this shaft, on the south part of the lode, is also improved, now worth fully 12l. per fathom; this is to communicate with the rise referred to above, and we are pushing both points as fast as possible to ventilate the two levels, and open up tribute ground. The men are making fair progress in driving the cross-cut south at this level to intersect the south lode, and have just passed through the elvan course. We would here remark that in driving the cross-cut to cut the lode, east of the above shaft, we passed through the elva 4 fms. before we reached the lode, so that we may expect to meet with the lode in about 4 fms. further driving from this time. There is no change to notice in any other part of the mine since last report.

NORTH DOWNS.—J. Grenfell, July 4: I am glad to inform you the lode in the winze sinking below the 50 fm. level, west of King's shaft, is further improved, now worth 16l. per fathom. We have about 3 fms. to sink to communicate with the rise in the back of the 60, which we hope to accomplish against our next setting-day (July 20), when we shall be in a position to set the best stope we have had in this mine for some years past. No lode has been taken down in the rise in the back of the 60 since our report on Tuesday, then valued at 1 ton of good ore per fathom.

NORTH JANE.—J. Rowe, June 27: The lode in the 35, east of Leeds's engine-shaft, is 3 feet wide, producing good stones of tin. The 35 cross-cut, west of Leeds engine-shaft, is still in the elvan course, which is hard and spare for driving through; I am expecting to get through the elvan soon, as we have already driven over 4 fathoms in it. The ground is very favourable for driving in the cross-cut, north of the west footway shaft, in the 15. I am glad to hear of a rich course of tin at Wheel Jane, worth it is said 80l. to 100l. per fathom; they have this discovery in the 50, which is the nearest level to the 35.

NORTH POOL.—Joseph Vivian and Son, F. J. Harris, July 3: The 40, west of Ballistrat shaft, at Ballistrat, is there, and there is a change of opinion, and the same remarks apply to this level being driven east on the same lode. In driving the 40 west of sump, on the middle lode, we continue to open through a very promising formation of copper. The lode has been smaller than when last reported on, but is again improving, the value varying from 10l. to 15l. per fathom.

NORTH RETAILACK.—G. R. Odgers, July 3: The lode in the adit, east from the boundary shaft is split into branches, but the ground is still the same character. I believe that when we get deeper into the mine ground we shall find a more defined lode

per fathom. Above the 80, west of Domingo's winze, the lode is worth $1\frac{1}{4}$ ton per fathom. Above the 80, east of Taylor's (south part), the lode is worth $\frac{3}{4}$ ton per fathom. Above the 50, west of Ernesto's winze, the lode is worth 1 ton per fathom. Above the 90, east of Taylor's shaft, the lode is worth $1\frac{1}{4}$ ton per fathom.

THE STYRIAN STEEL AND IRON COMPANY (the prospectus of which appears in our advertising columns) has been formed for the purpose of acquiring the deposits of spathic and hematite iron ore and coal fields in the province of Styria, South Austria, and to develop and extend the scale of working of the different mines, with the view of carrying on the business of steel and iron manufactures. As but small portions of the European iron districts are capable of producing iron for steel manufacturing purposes, by reason of which England is compelled to import largely from Sweden and Germany, it is argued that no country can successfully compete with South Austria in the possession of every necessary element for an extensive and profitable manufacture of steel. The peculiar adaptability of the ore for the purposes in view, by the absence of sulphur and phosphorus, is abundantly attested by the analyses of Prof. Tunner (of the Imperial College, Styria), as is the quality of the coal by Dr. Miller (of King's College, London). It is estimated that the principal deposits contain not less than a thousand million tons, yielding an average of 42 to 48 per cent. of metallic iron; the cost of raising varies from 2s. to 6s. per ton, and of transport to the works from 3s. to 5s. per ton. The coal mines are estimated to contain two hundred million tons; the cost of raising varies from 3s. to 6s. per ton, while the selling prices are from 9s. to 15s. The collieries are provided with shafts, &c., and the requisite machinery, and the coal is now being sold to the South Austrian and Lombardo-Venetian Railway Company at 10s. per ton. A railway, $7\frac{1}{2}$ English miles in length, will be constructed by the company, to connect the mines with the South Austrian Railway network at Lilly, so as to secure to the company's proposed works any amount of fuel required, at a cost of 4s. per ton—the railway will cost 30,000*l.*, the right for its construction having been granted by Imperial law. The cost of the steel and ironworks to be erected and adapted for producing 50,000 tons of steel and iron per annum is intended to be in full operation within twelve months) has been estimated at 70,000*l.* It is computed that the cost of conveyance of the products from the works to Trieste will not exceed 10s.; to Vienna, 9s.; and to Hull and other English seaports, 30s. per ton. Among

Total 2355 £12,432 19 0

100per area for sale! the Royal Hotel, Truro, on Thursday week.—Mines
 and Parcels.—Devon Great Consols 1731—Marke Valley 437—Kington Down
 151—East Caradon 300—Devon and Cornwall 180—Wheat Friendship 175—Wheat
 Blake 159—Wheat Emma 125—East Russell 124—Prince of Wales 120—Bedford
 113—West Maria and Fortescue 84—Bampfylde 63—Wheat Crebor 59—
 nnnislake (Clitter's) 35—Caradon Consols 36—Furdon 30—James's Ore 24—
 11—Mellcombe 8.—Total, 4139 tons.

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,
MINING AGENTS, STOCK AND SHARE DEALERS, &c.
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

MESSRS. WATSON BROTHERS beg to notify to their friends and the public generally that Mr. CUELL has this day retired from the firm, in accordance with a clause in the deed of partnership; and having also sold to the remaining partners all his right, property, and interest in the business hitherto carried on by J. Y. WATSON, F.G.S., NAPOLEON FREDERICK WATSON, and himself, under the name of "WATSON and CUELL," the same will be carried on in future by Mr. J. Y. WATSON and Mr. N. P. WATSON, under the designation of "WATSON BROTHERS," and they take this opportunity to return their most sincere thanks for the great patronage bestowed and confidence reposed in the firm for 24 years, and to assure their friends and clients it will be their earnest endeavour to merit a continuance of both.

Messrs. WATSON BROTHERS have made arrangements for continuing their weekly Circular, which has had a large circulation for many years, to the columns of the *Mining Journal*, their special reports and remarks upon mines and mining, and state of the share market, will in future appear in this column. In the year 1848, when Cornish mining was almost unknown to the general public, attention was first called to its advantages, when properly conducted, in the "Compendium of British Mining," commenced in 1837, and published in 1848, by Mr. J. Y. WATSON, F.G.S., author of "Gleanings among Mines and Miners," "Records of Ancient Mining," "Cornish Notes" (first series, 1862), "Cornish Notes" (second series, 1863), "The Progress of Mining," with statistics of the mining interest, annually for 21 years, &c., &c. In the Compendium, published in 1848, Mr. WATSON was the first to recommend the system of a "division of small risks in several mines, ensuring success in the aggregate," and Messrs. WATSON BROTHERS have always a selected list on hand. Perhaps at no former period in the annals of mining has there been more peculiar need of honest and experienced advice in regard to mines and share dealing than there is at present; and, from the lengthened experience of Messrs. WATSON BROTHERS they are emboldened to offer, thus publicly, their best services to all connected with mines or the market, as they have for so many years done privately, through the medium of their own Circular.

Messrs. WATSON BROTHERS transact business in the purchase and sale of mining shares, and other securities, payments of calls, receipt and transmission of dividends, obtaining information for clients, and affording advice, to the best of their knowledge and judgment, based on the experience of more than 30 years active connection with the Mining Market.

Messrs. WATSON BROTHERS also inform their clients and the public that they transact business in the public funds, railway, docks, insurance, and every other description of shares dealt in on the Stock Exchange.

Messrs. WATSON BROTHERS are also ready to give their opinion of particular mines, as well as to recommend mines to invest or speculate in, and they give their advice and recommendations to the best of their judgment and ability, founded on the best practical advice they can obtain from the mining districts; but they will not be held responsible, nor subject to blame, if results do not always equal the expectations they may have held out in a property so fluctuating as mining.

Messrs. WATSON BROTHERS having agents and correspondents in all the mining districts, and an extensive connection among the largest holders of mining property, have the more confidence in tendering their advice on all matters relating to the state and prospects of mines and mining companies, and are able to supply shares in all the best mines at close market prices, free of all charge for commission.

EXPLANATORY.—We were sorry to find that Mr. Cuell, on the appearance of our Circular last week, considered an inference beyond what we intended might be drawn from our statement—that "he had retired from the firm," and sold to us all his property and interest hitherto carried on under the name of *Watson and Cuell*. He feared the public might think he had retired from *Business altogether*; and on hearing of this, we immediately offered to correct any such impression, if he really thought it had been created, and this we now do with pleasure.

"W. S." somewhere about a year ago, wrote to the purser of a mine, saying he wished from that date to relinquish the shares standing in his name. The purser replied that there was a call due which, when paid, he would forward the proper form of relinquishment. "W. S." paid the call, but the purser never sent the form of relinquishment, though since that time "W. S." has never received any notice of meetings or calls, or anything in connection with the mine, and now asks us—Should we consider him free of the mine and of all liability? Should the mine in question ever get into the Stannary Courts there is no telling the way in which the case would be regarded; but it is evident—as there is in reality no stereotyped form of relinquishment, and an intimation to the purser is generally sufficient, we should consider the call paid by "W. S." fully covered his proportion of liability, and that the purser thereupon removed is name from the list of shareholders.

INVESTMENT AND SPECULATION.—When "financial" companies, paying their 20 and 40 per cent., first took the monetary world by storm, we held and expressed but one opinion of them, and we prevented all who applied to us from going into them. They became the fashion, however, and even the steady-going public, men who had hitherto preferred the "charming simplicity of the Three per Cent.," became affected with the financial fever, and invested at first a little; then, as the taste and flavour of 20 per cent. became known and appreciated, they were led on to invest more and more, and to withdraw from steady investments; and when the bubbles burst there was a smash in the monetary world, and a loss of all confidence among the investing public. Then banks failed, involving hundreds of families in ruin; and now, just as confidence was becoming a little restored, we have a smash among the railways. Debentures are so much waste paper, and pre-ference shares were to have been the order of the day, if Parliament would have submitted to anything so monstrous. So, one by one, the fancy investments of the hour show their rottenness, and like the Dead Sea apple, so promising to look at, turn to ashes in the eating. It is something for us to say, then, that mining generally has stood its ground, and if abuses in management are sometimes found, they are not of any magnitude, and annoy more than they hurt. All who go into mining know that they go into a speculation. We advise no one to put into mines money that they cannot afford to lose; and in this way, by a division of risks, they have chances of great gains, without being his harder than they can bear by losses. In dividend mines, too, 10 per cent. may be got with comparative safety; but here, again, we never advise anyone to go too deep, or to invest all in one undertaking. Banks and railways, however, were considered such safe investments that the capital of whole families was invested in them, and they have proved to be worse than the worst of mines.

"INQUIRY."—Sell 1, 3, and 6. Hold the others for the present.

"X. Y. Z."—We noticed the extract from the *West Briton* in reference to relinquishments, and, if correct, then secretaries and pursers have for years been demanding what they had no right to demand—payment of calls before they would accept relinquishments.

"X. Y. Z."—The best answer to those who say the ground is getting hard in Prince of Wales is this month's setting report. The 55 east, it will be seen, is worth 40s. per fm., and driving at 6s. 10s.; the 55 west, 20s. per fm., and driving at 8s. The only expensive setting is the 45 west, at 12s. per fm. (worth 20s.); and this is owing to the great width of the lode. The 20s. per fm. set principally at 21 1/2s. per fm., and worth 20s. and 20s. each. The total value of points in the mine is 210s. per fm., and the agent assures us he is discovering monthly a great deal more than he is taking away.

CHONTALES.—The difference in quotations observed by our correspondent is owing to the amount paid for freight incorrectly given. In the *Times* list of July 3 they were quoted 34s. paid, 11s. to 14s. premium; now there is 4s. paid, and 11s. to 14s. premium, makes the difference on the Mining Exchange, viz., 3s. to 5s. 1/2. We hardly expect a remittance of gold above the rate of the month, though it is just possible the next packet, due about the 14th, may bring some.

PRACTICAL TELEGRAPHY.

The Electric Telegraph has now for some time occupied a place amongst our every-day necessities, and there is, probably, nothing the result of the discoveries of modern science the loss of which would be more generally and severely felt; yet comparatively little is known of the mode in which the communication is carried on, or the principles upon which its operation depends. An opportunity, however, is now offered for acquiring ample information upon the subject in a most interesting manner from the very instructive volume* by Mr. CULLEY, the second edition of which has just been issued. The history and practice of telegraphy is treated in a concise yet exhaustive manner, the researches and experience of all the great electricians having been availed of by the author, and compressed into the narrowest possible limits compatible with the proper treatment of the subject. He commences by a description of the apparatus in use, observing that they may be divided into two classes, those whose signals are transient, and must be read off one by one as they appear, and those which record their signals permanently, so that they can be read at leisure. The double needle instrument is rapidly going out of use, and the single needle is not now employed by the Electric Telegraph Company upon any important circuit, the recording instruments having been found much more accurate.

The commercial value of an instrument does not depend so much upon its power to record in the ordinary alphabet as in the amount of work it will turn out, and its freedom from derangement. The Morse instrument, Mr. Culley tells us, is at present unsurpassed in these respects, and it has been found that its introduction upon a circuit previously worked by the needle system reduces error to a very considerable extent. This arises from its signals being recorded, Mr. Culley gives a record of the relative speed attained with the double needle instrument. The highest speed on a circuit of a little under 200 miles was—double needle, 35 words per minute; printing, 38 words per minute; whilst the average of between two or three hours continuous work, reporting a speech of Mr. Bright, was—double needle, 21 1/2 words per minute; printing, 26 1/2 words per minute. After stating the various sources of electricity, Mr. Culley explains the resistance and laws of the current; magnetism and electro-magnetism, electro-dynamic or current induction, electro-static induction, atmospheric electricity, deflections or earth currents, and insulation, and thus prepares his readers to comprehend the succeeding chapters, which may be considered to contain the absolutely practical part of the subject. In this portion of the work the construction of a line of telegraph is first considered, and ordinary testing, and the modes of connecting the wires for testing, are then explained. These are followed by a chapter containing descriptions of the instruments for signalling, the needle instrument, printing telegraphs, switches, or commutators, and translators. The concluding chapter treats of underground and submarine telegraphs, underground and tunnel works, submarine cables, of the mode of testing for the distance of faults in cables, and the speed or capacity for work of a cable—an appendix and notes, and a series of the most useful tables, completing a volume of the greatest practical utility to those actually engaged in the working of telegraphs, and of the highest interest to those who merely avail themselves of the advantages which telegraphy offers.

* "A Handbook of Practical Telegraphy." By R. S. CULLEY, Engineer to the Electric and International Telegraph Company. London: Longmans.

Notices to Correspondents.

* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be filed on receipt: it then forms an accumulating useful work of reference.

PRACTICAL MINING—DRIVING LEVELS, &c.—Have you a set of tables for measuring shafts, ends, winces, slopes, &c., with the solid contents fathomed up from inches to fathoms? For example, suppose you have a piece of ground measuring 19 feet long, 11 1/2 feet wide, and 8 1/2 feet high, I want to know the number of solid fathoms this measurement contains.—C. H. W.

[We know of no tables for giving the particulars required, but the result is easily obtained by multiplying the three quantities together. Thus, 19 ft. is 3 fms. 1 ft.; 11 1/2 ft. is 1 ft. 5 ft. 6 in.; and 8 1/2 ft. is 1 ft. 2 ft. 6 in. Then, 3 fms. 1 ft. multiplied by 1 ft. 5 ft. 6 in.—3 fms. 0 ft. 7 in., and this multiplied by 1 ft. 2 ft. 6 in.—7 fms. 1 ft. 4 in., which is the quantity of ground to be paid for.]

PLASTIC SLATE.—Can any of your correspondents inform me if this is a patent and, if so, who the patentee is; also, the names of the manufacturers, and to what uses it can be applied?—J. S. M.

NEW QUEBRADA.—Although the shareholders have at different times received a great deal of what may be termed superficial information, as to the capabilities and value of these mines, there never has yet been published—at least so far as my knowledge goes—a practical description of the resources of the property. Surely there is some one who can afford the shareholders this important information.—A. B. C.

WHEAL MARGERY.—In the *Mining Notabilia* (May 25 and June 1) I find a statement that the shares in this mine are about to be increased to give additional capital for the further development of the property. I have been anxiously looking forward to see the result of the meeting held at the mine on June 10, and to know whether any of the shares are to be purchased. From the excellent position of the mine, the near approach to the granite, and the immediate proximity to the celebrated Providence Mines, I cannot help thinking the prospects are of such an unusually good character that it can hardly be called a speculation, and have, with others, been looking for some expression of opinion in your valuable Journal.—J. B.—[By the resolution passed at a special general meeting of the mine, the shares were ordered to be increased, and they are now increased from 702 to 2808, of which shares 1404 are now issuing at 2s. per share, the reason of this being done is that the present shareholders have expended about 100,000l. in developing this property, and they are of opinion that a small further outlay will enable them to intersect the junction of the kyllas and granite in the engine-shaft, when very satisfactory results are expected, inasmuch as at the Providence Mines, which adjoin this mine, after a similar outlay, became profitable, and has since divided nearly 100,000l. profit. It continues to look well, pays regular dividends, and has large reserves of tin ore. The present is considered a most favourable opportunity for investment, as the mine is in a perfect state of working, and is supplied with efficient machinery, and we are informed that all the new capital is to be spent in the development of the mine, and it is supposed that in a short time the junction will be reached.]

DEVON NEW MARIA.—Is this, mentioned by "Investigator" in last week's Journal, the mine announced in the *Mining Journal* of Feb. 9 as about to be worked by Mr. H. L. Phillips and some other gentlemen?—OBSERVER.

THE MINING JOURNAL,
Railway and Commercial Gazette.

LONDON, JULY 6, 1867.

THE AMERICAN VERSUS THE BRITISH IRON TRADE.

It has been known to us for some time what was the general bearing of the evidence given before the Trades Unions Commissioners; but we resolved to defer any notice of it until the official minutes of the evidence which Mr. A. S. HEWITT gave had appeared. Those minutes have only just been obtainable, and we take the earliest opportunity of bringing before our readers one or two of the points in that gentleman's testimony in which they may be fairly supposed to feel most interest. Mr. HEWITT is an ironmaster of long and comprehensive experience. He is a partner in the firm which has the founder of the widely-known Cooper Institute for its head, and possesses works in the states of New York, New Jersey, and Pennsylvania, where they employ 4000 hands. Moreover, Mr. HEWITT is a director of one of the leading railroads of the States. The testimony of such a man may, therefore, be regarded as of much worth upon any question relating to the American iron trade, especially as the witness is as observant as he is influential, and expresses himself with the perspicuity which is the characteristic of the clear thinker.

We would first hear him upon the question of the possibility of carrying on the manufacture of iron in the States under ordinary circumstances with a prospect of success on the part of the American ironmaster in his competition with the ironmasters of Great Britain. On this point he is explicit, that without a heavy tariff on that side the Americans cannot compete with the British makers. "The British iron," he says, "comes into our country and undersells the iron of our manufacturers, and we are periodically ruined. I mean that whenever there is a period of stagnation in England there is such an influx into the American market that every ironworker (master) in America must be ruined; and I, in my own experience, have seen every large establishment in the United States in existence prior to 1860, with the exception of two, of which the owners happened to be rich people, either fail or compromise with their creditors, or sold by the sheriff." Mr. HEWITT gives as the "sole cause" of this "the ability of Great Britain to make iron at a less cost than we do." To this conclusion there can be no dissent; but Mr. HEWITT adds, "in consequence of the lower rates of labour in this country." He shows why all kinds of manual labour will always be higher in such a country as the States, with a wide extent of uncultivated land waiting only for occupying tillers, who may have an allotment for the asking; and he then goes on to compare certain departments of the ironworks in Wales with those in America; maintains that the employment of women in ironworks (the operation is piling for the mills) is degrading to labour—a degradation of labour to which America, neither employers or employed, is prepared to imitate.

These two causes are, to his mind, the chief amongst those in operation to keep up wages in America considerably above the scale at which English labour is remunerated. Hence he argues for a high protective duty. "If," he remarks, "we say we will not degrade our labour, and we will not give up the business, then we are driven to the tariff." Mr. WILLIAM MATTHEWS, himself a large employer of labour, alike in Wales and in Staffordshire, however, succeeded in so putting the matter before the witness, that his answers became conclusive, that we secure very little advantage in the competition from the employment of women and boys, and that without that difference in a small portion of labour employed in the two countries, it is impossible for America to compete with England in the manufacture of iron, without imposing burthens upon the great consuming public in that country, which is manifestly as unfair, as it is impolitic for any section of traders to attempt. We transfer the following portion of the minutes as conclusive upon this point:—

"I think you said that puddlers' wages, taking that as the groundwork of the regulation of other rates of wages, and comparing the prices of South Staffordshire with yours in America, were about three times as much in America as in South Staffordshire?—Nearly.

Therefore, I conclude that the wages of other descriptions of labour would be founded pretty much on the same ratio?—They will be found nearly so, but I may qualify the statement in this way. We have now made our estimate of what a puddler can earn upon the theory that he works his 11 turns in a week. But when that high rate of wages prevails the puddlers do not average 11 turns, they would do well if they averaged 10 turns. Therefore, that estimate would be slightly exaggerated when carried out into the entire week, but I can give you the wages for ordinary purposes.

If the rate of wages in America is regulated by the rate of puddlers' wages, and the puddlers represent nearly three times the amount of wages paid in England, that would be a sufficient increase compared with the English rate of wages to account for our own making iron very much cheaper than they do in America, apart from the employment of women?—Yes; I assert that that is the case. I only say that you have got one element of labour unnecessarily low for that purpose. I set out by reciting the argument used on our side in favour of protection. I admit now frankly that as long as this rate of wages prevails in America you do not want the female labour or boys labour to beat us.

It is not we who want the female labour or the boys' labour, but the women want it themselves, you know?—I know that. I have tried to study the cost of producing iron in England. I have been all through the Staffordshire region previously, and I have been carefully through the North of England, and I know that there are abundant reasons in the condition of your labour generally why you should undersell us without any reference to this outside matter."

No wonder, therefore, that all the ironmasters of America, save two, should be ruined up to 1860. The attempt to compete with Great Britain in this article of manufacture is unnatural, and must, sooner or later, come to an end, so far as it is attempted to be forced by a

high protective tariff. A man of Mr. HEWITT's intelligence must be convinced of this, and we gather that such a result is deemed by him as probable, and by his intelligence would be welcomed; but it is pardonably repelled by the interest he has at stake in trying to preserve the existence of a trade in which he is so greatly concerned.

We have touched upon only one feature of Mr. HEWITT's testimony. There are others that should be taken up, and we will return to the minutes again in next week's Journal.

APPLICATION OF FIRE-DAMP TO ILLUMINATION.

At the recent meeting at Nottingham of the Association of Fire-Damp and Coal Gas, with Particulars of Experiments made in Lighting portions of the Oaks Colliery with Pit Gas," was read by Mr. J. HUTCHINSON, of the Barnsley Gas Works. Mr. HUTCHINSON remarks that it is certain that the coal cannot be worked without at the same time liberating the gas; it is equally certain that we cannot do so on the numerous and important manufacturing and domestic applications to which coal is now applied (and deemed indispensable) without its aid. It becomes, therefore, a matter of importance to investigate whether this dangerous gas cannot (in some cases, at least) be collected and utilised, for the purpose of lighting the main haulage roads and other safe parts of the mine, instead of being allowed to circulate, and become mixed with air; thus forming the explosive compound which has at various times committed such fearful ravages. If, therefore, this gas can possibly be so utilised, the subject must be one of great interest to an association of gas managers, although the gas is manufactured by Nature, without the aid of either stokers or retorts, on a grand scale, of which we have really very little conception all the apparatus and appliances which we ordinarily think necessary for the carrying on of a modern gasworks are dispensed with. We appear to have no definite idea of the magnitude of the operations or time taken to conduct the process, yet it is evident to our senses that coal gas is, or has been, made and stored up on a scale so immense as to totally eclipse the idea of even our modern gas engineers. The subject then proceeded to give an account of experiments he made at the Oaks Colliery some five years since. It appears that in July, 1862, Mr. GEORGE MINTO, then underground viewer, suggested that the blower of gas then existing in the pit, which had been going on some time, and which appeared strong and pure, might be turned some account, such as lighting the mine, and Mr. HUTCHINSON consulted to devise the mode of carrying out the suggestion. He and Mr. MINTO descended the pit, which was about 300 yards deep, and having been provided with lamps at the cabin, went to examine the place. They proceeded down the engine-plane, about 800 yards, where the level; all was life and activity; there was a sufficiency of air, and the seam of coal was about 9 ft. thick. They next proceeded to the gas-pit, this is a branch road from the level on the right hand at the entrance to which was a gate, so that the air could freely circulate through it; this was kept constantly locked, no one but the underground viewer being allowed to have a key.

At length they arrived at the place where the gas is actually issued, which is a small pit or well, about 4 ft. in diameter and 25 ft. deep, and had been sunk three or four years ago to prove the throw of the vein of coal having been suddenly lost at this point. The engineers had been compelled to abandon this search for the coal in consequence of so much gas and water being given off as to render it safe to proceed further, and had filled up the little pit with any of debris. Through this rubbish and water the gas boiled up incessantly from the seam of coal below with a very violent agitation. They made a careful examination of the place, and this caused a number of questions to suggest themselves, such as—What kind of gas is it? Is it inflammable? Is it given off at a uniform rate or pressure? What illuminating power has it? What is the quantity given off per hour? Can it be conducted to, and consumed in, a safe part of the mine? To answer these and other questions it was absolutely necessary that some practical experiments should be made at the source from where the gas issues, in order to learn something of its nature and properties; so the next day they paid a second visit to the dreary cave, if such a mild term may be applied to such a place. On this occasion the gas or fire-damp escaped plentifully, with a loud bubbling, roaring, hissing noise at the surface of the water, which was 63° F. It might also be heard issuing out of the coal, or crevices of the rock in various situations round about them. It had no smell, or, at least so slight, that there is a difficulty to find words to describe it; yet could be recognised by persons accustomed to it. With a large funnel inverted over one of the blowers in the water, and a 6-ft. lead of India-rubber tubing, the pressure-gauge gave 7 inches. Because abundance of gas, filling a number of test-tubes, bottles, and bladders. At the end of this tube the thermometer, held in a stream of gas, indicated 63° Fahr., the same temperature as the water in the pit. Then applied the red and blue litmus, lead and turmeric papers, lime-water tests, but no reaction was shown on any of them.

On their third visit, Mr. DYMOND, one of the proprietors of the mine, accompanied them, and was certainly anxious to have everything done towards freeing the mine of the gas that could be done with safety, and was desirous of witnessing the experiments. They collected the gas in larger quantities, filled a Peppy's gas-holder, removed it to the cabin before mentioned, and tried the gas with Argand union jet and bat's-wing burners, and found the gas to burn to all appearances, equal to the manufactured coal gas. It sparkled a little with the particles of coal dust that were flying about, but otherwise it burnt very well. I was fully convinced of the practicability of the plan suggested of utilising the gas for lighting a portion of the mine, which would not only be a considerable saving of oil, &c., but, so far as it could be collected and burnt, render the mine so much safer, by destroying the explosibility of the gas so consumed instead of the said gas escaping into and circulating in an explosive form through the colliery workings, until it escapes from the shaft. But, before any steps could be taken towards so desirable an object, it was necessary to obtain the consent of Mr. WOODROUSE, the mining engineer, who has the sole control of all matters connected with the ventilation of the Oaks Colliery; so two bladders full of the gas were at once forwarded to that gentleman, who happened to be at a neighbouring colliery, and he compared the gas contained in the bladders with the coal gas manufactured on the premises, and declared it to be equal to the artificial gas so made, that he at once gave full authority to proceed with the experiment, and to have everything done that was needful, with a view of lighting a portion of the mine.

Mr. DYMOND then gave instructions for the road to the gas pit to be cleared of rubbish and fallen rocks, so that free access could be obtained thereto, and no expense to be spared in order to render all as safe as possible. A staff of men were now set to work, and the stone and rubbish removed; the well was cleared out some 10 or 12 ft. deep, and walled up; plates of sheet-lead were laid down and covered with clay puddle, to force as much of the gas as possible through the water. A small gas-holder, 4 ft. deep, and 6 ft. in diameter, with 6-in. T-pipe on the top, was then procured and fixed over the gas at one end of this T-pipe was a slide-valve, which could be opened or shut as required; at the other end was a bend connected to the pipes, which connected the gas to the engine-plane, &c., where it could be consumed with safety; 4-in. pipes were laid from the gas pit to the bottom of the engine-plane, from which point 3-in. and 2-in. pipes were continued to the bottom of the shaft. Into the 6-in. T-pipe on the top of the holder was inserted a short piece of 1-in. tubing, and a 12-inch pressure-gauge attached thereto; but the water was instantly blown out; indeed, when the valve and all other outlets were closed the force of gas was so strong that the weight of the men was not sufficient to keep the gas-holder down. To keep the water from under the holder, although it dipped 12 in. To the holder in its position they found it necessary to place pieces of timber between the roof of the mine and top of the gas-holder. It could now collect gas in a greater quantity with comparative ease. He made various trials of the quantity of gas given per hour with a light gas-meter. He obtained from 295 to 300 per hour, or 7200 per day. They were fully aware that a great deal more gas was given off, but the difficulty was how to collect it under the gas-holder. The small pit being partially filled up, the gas was forced laterally through the crevices of the rocks around, so that the puddle was often thrown

The pressure in the gasholder could be regulated by opening or closing the valve more or less, and allowing the surplus gas to escape; and, being anxious to prove if the gas was given off at a uniform rate, he set the valve so as to maintain 1 in. head of water, and attached a registering pressure-gauge to the 1-in. pipe, the pressure remained constant—1 in. during the whole 24 hours. He tried various pressures with like results, thus proving beyond doubt that this simple and inexpensive apparatus might be depended upon for collecting and furnishing a regular and constant supply of gas to the mine. He then tested the illuminating power, which he found equal to 10 sperm candles; in one instance he obtained 12-candles, but was somewhat surprised, after repeated trials with COOPER'S tube, to find he could get no condensation by the bromine test, although the ordinary coal gas gave 4½ per cent.; neither could he obtain any indication of carbonic oxide or carbonic acid. The specific gravity was .517. The chemical test papers were again applied, as before mentioned, with like results. He found the loudest explosion to occur when the gas was mixed with nine times its volume of air.

At length the pipes were laid, the burners attached, and ready for lighting. Then comes a very critical point. They were anxious to be satisfied that the gas contained in the pipe to which the light is applied is in such a condition at the moment that the light cannot by any possible means travel backwards to the gas pit, and thereby cause an explosion. He felt quite certain upon this point, from observing the pressure and other indications, but in a matter of such importance there should be no room to doubt. For the first light he used an Argand burner, the gas passing through a glass tube filled with shot; after that a 1-in. pipe, about a foot in length, filled with wire, driven in lengthwise, previously proving by direct experiment that it was impossible for a light to run back under such circumstances. The first light was now applied with perfect success, and continued to burn quite satisfactorily; others were now lighted without fear; by degrees some 60 lights were put on, which have continued to burn day and night without intermission ever since that time until Dec. 12 last, on which date a terrific explosion occurred, with the particulars of which most of our readers will be familiar. This caused the death of near 400 unfortunate individuals, 285 of whom remain entombed in the pit, which it was found necessary to close in order to put out the fire. Before finally closing up the pit a 10-in. pipe was placed up the side of the shaft, so as to give vent to the pent up gases which are given off in large quantities at the present time. Indeed, the mine now appears to be one huge gasometer. On Friday, June 7, the quantity of gas given off was near 50,000 cubic feet per hour. However, the quantity varies considerably with atmospheric changes. An account of the changes which occur in barometer, thermometer, and pressure-gauge is taken every hour, and faithfully recorded in the colliery offices. The gas now given off appears identical with that which he found to issue from the gas pit before named, with the exception that it contains about 3 per cent. of carbonic acid, no trace of which could be discovered in the latter.

SUBSTITUTE FOR COAL IN THE MANUFACTURE OF GAS.

Subjoined is the substance of a paper read before the British Association of Gas Managers, at Nottingham, a few days ago, by Mr. E. Goddard, engineer to the Ipswich Gaslight Company, on the application of liquid hydrocarbons as a substitute for Cannel in the manufacture of gas of a high illuminating power.—In many parts of the country is to be found immense quantities of schist, or schist clay, commonly known as shale, from which oleaginous matter can readily be produced, and Letters Patent have been recently taken out by Mr. McKenzie for utilising this oil in the production of gas. The invention consists in minutely pulverising 1 ton of bituminous coal, or duff, and intimately combining it with—first, 25, 30, or 35 gallons of crude shale oil or petroleum; or, secondly, with one-half of these oils mixed with one-half of what is known as bottoms, or residue in the distillation of these oils, partly with the view of taking off the water from the oil and thoroughly mixing the thick residues with the light oils, and also partly to produce a quicker and more complete combination of the oil with the coal. Mr. McKenzie slightly heats the oils, and in that state, or shortly thereafter, thoroughly mixes and combines them. The quantities of oil used, whether 25, 30, or 35 gallons, are mainly regulated by the quality and quantity of gas desired from the material. If 18-candle gas, or under, be sought, 25 gallons of oil are used; should 24-candle gas, or under, 30 gallons are used; and if over 24-candle gas, 35 gallons are used. It may be that an oil or coal deficient in the properties desired will require 2 to 5 gallons more oil, but that, we understand, to be the extent of the variation.

If petroleum be used instead of shale oil, the results will be better, but there is so little difference that, commercially, shale is the better oil for the purpose. The only other element in the manufacture is the pulverisation of the coal. If the minimum quantity of oil is to be used, the coal requires to be ground a little rougher than when 30 gallons are used, while if 35 gallons are to be used it requires to be very fine. The reason for this we understand to be that the greater the quantity of oil the finer must be the particles of coal, so that the oil may be absorbed. If 35 gallons of oil were put into coal adapted for 25 gallons only, there would be condensation, and the gas would not be permanent to the extent to which the coal could not absorb thoroughly the oil. While the result would be good, it would be much less satisfactory, and would raise doubts as to the permanency of the gas produced. There is no peculiarity about the use of the material. It is charged in the usual way, but requires a little less time in the retorts than ordinary coal, the only thing requiring care in its treatment when first used at any works is that the suction pipes be thoroughly cleansed.

As to the results secured, these have been reported very high, varying from 12,000 to 14,000 cubic feet per ton, according to the quantity of oil used, the illuminating power of the gas being from 18 to 20 candles. The coke produced is of first-rate quality, and this forms one of the valuable features of the invention.

Letters Patent for accomplishing the same object have been secured by Mr. John Hamilton, in which crude coal oil (creosote), or other mineral oil, together with a small portion of naphthalene, are boiled, and whilst in a hot state are poured over a quantity of sifted or pulverised coal, known in the trade as "coal duff," coal, culm, or other pulverised coal may be used. The mixture may be made in a pug-mill, or other suitable mixing machine, and is then allowed to stand for 24 hours, or thereabouts, so as to permit a complete combination of the gases of the coal with those of the oil and naphthalene. The result is an artificial gas-producing material, and the following proportions are found to produce good effects:—1 ton of coal, 20 to 30 gallons of coal oil, and 5 lbs. of naphthalene. From this mixture the patentee states that he has obtained 15,000 cubic feet of gas of high illuminating power. The patent is held by Mr. McKenzie. The licence for the sole manufacture of Mr. McKenzie's patent material has been secured for England by Mr. Thomas Vaughan, of Middlesbrough, who is now erecting large works at Merton, near Seaham Harbour, who will be able shortly to supply the material equal to the best Boghead Cannel, at about half the price of Cannel. Several attempts have been made to employ petroleum instead of coal for the production of gas; and in the State of New York, and other parts of America, where petroleum is very cheap and coals expensive, the experiments have proved very satisfactory.

THE EXPORT COAL TRADE.—The exports of coal from the United Kingdom have not made any very great further progress this year, having amounted in the five months ending May 31 to 3,832,012 tons, as compared with 3,816,698 tons in the corresponding period of 1866, and 3,501,090 tons in the corresponding period of 1865. In May, however, they presented a considerable advance, having footed up in that month to 1,115,312 tons, as compared with 900,821 tons in May, 1866, and 863,295 tons in May, 1865. The exports to France are still increasing, having amounted in May to 201,385 tons, as compared with 171,315 tons in May, 1866, and 155,910 tons in May, 1865; and in the five months ending May 31, this year, to 858,327 tons, as compared with 747,786 tons in the corresponding period of 1866, and 626,940 tons in the corresponding period of 1865. The exports of coal have increased this year to Russia, Denmark, Prussia, the Hanse Towns, Holland, France, and Spain, but they have declined to Sweden,

Italy, the United States, Brazil, British India, and some other parts of the world. The value of the coal exported in May was 563,854*l.*, as compared with 453,728*l.* in May, 1866, and 403,425*l.* in May, 1865; and in the five months ending May 31, this year, 1,985,609*l.*, as compared with 1,948,110*l.* in 1866, and 1,683,588*l.* in 1865.

COAL SHIPMENTS AT BIRKENHEAD.—The Welsh colliery proprietors are now adopting such measures as will enable shippers of coal to take cargoes on board at Birkenhead on as advantageous terms as those offered at Cardiff and other South Wales ports. The Powell Duffryn Colliery proprietors are offering advantages which, it is believed, will for the future prevent vessels from being taken from the Mersey to load at Cardiff. If the risks of Channel voyage, the double port charges, and other expenses are taken into consideration, it would appear that vessels will sustain a loss by being taken from the Mersey to be laden at the ports in South Wales.

MACHINERY, &c., TENDERS ACCEPTED BY THE LIVERPOOL TOWN COUNCIL.—The Liverpool Town Council has agreed to accept the tender of Messrs. Richmond and Norton, for the providing and fixing the machinery, boiler, tanks, piping, troughs, and stable fittings, in accordance with a plan submitted by the borough engineer, at a cost of 440*l.* It was further agreed to accept the tenders of Messrs. Penlington and Hutton, for the supply of a large clock for the municipal offices, at a cost of 490*l.*; and of Mr. Warner, for the supply of bells required in connection with the clock, at a cost of 49*l.* 10*s.* The whole of the salaries of the officials and assistants in the borough engineer's department are, it is believed, to be increased, and a recommendation to this effect will be considered at the next quarterly council.

THE CHATTERLEY IRON COMPANY (LIMITED).

[FROM OUR CORRESPONDENT.]

The mineral estate held by the Chatterley Iron Company (Limited) under a lease from Mr. Ralph Sneyd, of Keele Hall, is one of the richest and best appointed in the kingdom. The estate is upwards of 650 acres in extent, and five shafts have been sunk, four of which are in operation. The principal of these is shaft No. 4, which is 12 ft. in diameter, and is, therefore, if we mistake not, the largest in North Staffordshire. It has been carried to a depth of 228 yards, and at 230 yards the miners will come upon the red shag ironstone, having a thickness of 5 ft. In sinking to this depth they have passed through a great variety of valuable minerals, and in their further progress it is expected they will come in succession upon the following, amongst other seams, at the depths named:—Red mine oil shale, yielding 30 gallons per ton, 249 yards; red mine ironstone and red mine coal, at about the same depth; heavy mine ironstone, 276 yards; little row coal, 2 ft. 7 in., 302 yards; peacock coal, 7 ft., 308 yards; Spencer coal, 4 ft., 320 yards; great row coal, 9 ft., 352 yards; Cannel row coal, 4 ft., 370 yards; chalky ironstone, 4 ft., 370 yards; Wingham coal, 5 ft., 4 in., 510 yards; Rowhurst coal, 9 ft., 620 yards; Burnwood coal, 5 ft., 672 yards; and twist coal, 3 ft., 680 yards. The strata contain a large proportion of fine clay of first-rate quality; there are several seams of stone, found to yield from 30 to 35 gallons of crude oil per ton; and some of the ironstones contain more than 70 per cent. of metallic iron. The aggregate thickness of all the ironstones, from the half-yards down to the Burnwood, is upwards of 22 ft., and the yield 38,600 tons per acre. The aggregate thickness of the coal seams, from the twist upwards, is 58 ft., producing 58,000 tons per acre. In other words, the estate is estimated to yield to the depth specified 290,000 tons of ironstone, and 37,000,000 tons of coal.

The alum shale is estimated at 9680 tons, and the total of the oil shales at 41,000 tons, while the fire and blue brick clays appear to be almost unlimited; in fact, putting the matter broadly, and with a view to give in one sentence an idea of the value of the property, the Chatterley Iron Company's estate consists of a cubic mile of minerals, for there appears to be no doubt that it includes within itself all the varied seams of the North Staffordshire coal field, already proved to be more than a mile in thickness. In order to aid the imagination correctly to apprehend the significance of the term "a cubic mile," it may be added that competent persons estimate that if all the earth displaced in the construction of all the railways in the world were heaped together it would not be sufficient to form a solid mass of that extent.

Of course the winning of this vast store of mineral treasure, if ever the whole should be won, will be the work of successive generations; but whatever doubt may be entertained respecting man's capacity to overcome the difficulties incident to mining a mile below the surface of the earth, the machinery already erected by the Chatterley Iron Company is sufficiently powerful to make them masters of the situation to at least one-third of that depth. For the working of pit No. 4 they have set up a pair of coupled vertical engines with double cylinders, each 30½ inches in diameter, and having a 5-ft. stroke. The engines are of 250-horse power, and might be safely worked at a higher pressure than that figure indicates. They were manufactured by Mr. Edwin Scragge, of Congleton, and are the largest winding-engines in the county. The drum is placed inside the engine-house, and the shaft or axle is about 23 ft. from the floor. Its rim is not parallel with the axle, but it slopes inwards from either edge, so that the outer diameter is 21 ft., while the diameter in the centre is only 19 feet. By this arrangement greater security is obtained in winding than in the case of drums, in which the surface of the rim slopes outwards from the centre, as was conclusively shown some time since by a melancholy accident at Wigan, in which several men lost their lives. It is hardly necessary to add that the house erected for the reception of this fine piece of machinery is of proportionate strength, and in every way worthy of its tenant. The foundations are an almost solid 33 ft. cube of brickwork, and the outer walls, which are also of brickwork, are 3 ft. thick. The inner walls, supporting the engine and the drum, are built of dressed millstone grit, and are also 3 ft. thick; and in order to give greater stability, the machinery and these inner walls are secured by longitudinal iron plates, bolted together at the top and bottom by iron rods, 3½ in. in length.

The pit frame at No. 4 is, however, the greatest wonder. It is composed entirely of wrought-iron, and is the largest and most complete wrought-iron pit gear in existence. It is 63 feet high to the top of the pulleys, which are each 17 ft. in diameter, and the whole weighs about 16 tons. The uprights, backlogs, and struts are of angle iron at the four corners, braced together by lattice work. The backlogs are each 75 ft. long, and they abut on the engine-house, to which they are tied by strong iron bolts. The uprights are tied together with T-iron, and they stand upon blocks of millstone grit resting on solid brick foundations. This pit gear, which has a remarkably light appearance, and has excited great interest, was designed by Mr. C. J. Homer, and manufactured in a highly satisfactory manner by the Hancock Foundry Company, Fenton. It is estimated that the first cost is 25 per cent. less than a pit-frame of wood, and that its strength and durability are much greater.

Pit No. 5 will correspond in size and appointments to No. 4, and will be used for ventilation in connection with that shaft, and also for drawing mineral. When the shafts in progress are completed it is estimated that the colliery will raise 2500 tons of coal per week, and from 4000 to 5000 tons of raw stone, which will be equivalent to 2500 tons of calcined ironstone.

MINING, METALS, AND MINERALS—PATENT MATTERS.

BY MICHAEL HENRY,

Patent Agent and Adviser, M. Soc. Arts, Assoc. Soc. Eng.

The lists of applications for recent patents relating to the subjects that head this article contain a comparatively large number. They may be thus enumerated:—TUDENHAM, Lambeth, iron or metal rail rods or bars, for balconies, gates, railings, pillars, standards, or columns, &c.—CROW, Stratford, apparatus to adapt furnaces for creosote and other combustible liquids.—ONIONS, Newport, iron and steel.—MCKENZIE, Glasgow, gas.—SADLER, Chiddingfold, smoke-consuming.—BARNES, Manchester, metallic pens and penholders.—MILLER, Sydney, New South Wales, toughening brittle gold bullion, refining alloyed gold, and separating therefrom any silver contained therein. (Gold is not frequently the subject of patent applications; it might well be hoped that it proved more frequently the result.)—FLETCHER, Liverpool, artificial fuel.—JOHNSON, Lincoln's Inn-fields (communication from Petin and Gaudet), rolling and shaping metals.—GLOVER, Clerkenwell, furnaces.—FAIRLEY, Loughor, mechanism for preventing overwinding in shafts of coal and other mines—a subject, by the way, which merits and should receive more than mere cursory consideration.—EDWARDS, Wednesbury, lifts or cages and tubs for raising minerals from pits or mines, and for like purposes.—JONES, Blaenau, apparatus for getting coal, stone, and other minerals.—THOMSON, Cheside (communication from the Union Car Spring Manufacturing Company of New York), heating and annealing furnaces.—JONES, Birmingham, coal vases, buckets, and other hollow ware articles.—SIMON, Nottingham, bronzing machine.—HUTCHESON, Queen-street, and HEAD, Dowgate-hill, rotary pumps.—YORK, Cardiff, steel.—PERKINS, Great St. Helen's, stills for petroleum, paraffin oil, tar, turpentine, and the like.—BELLHOUSE, Rochdale, smoke-consuming furnace.—DICKIE, Kilwinning, gas.—SIMPSON, Whitburn, charging and emptying retorts.—REDDI-CRUIFF, Seglenias Mine, Llanidloes, buckets for pumps, especially suited for pumps for mines. (For this last application I acted as agent.)—MCCLINTOCK, Langham Hotel, pumps, &c.—HOLMAN, Laurence Pountney-lane, pumps.—WILSON and HALL, Newcastle, raising and forcing water.—HALL and PARSONS, Swansea, moulding artificial fuel.—BINCH, Newton Heath, casting ingots of Bessemer and other steel.—RAFFERTY and STOREY, Manchester, moving, laying down, and jointing metal pipes.—GLEASON, New York, gas-burners.—CLERG, St. Mary Axe, lamp-burners for petroleum, spirit, and other volatile liquids.—WEBSTER, Birmingham, metallic zinc paint.—CROW, West Ham, gas from gas-tar oil or gas-tar.—ATCHISON, Peckham and South Southwark, gas and heating.—WATTS and FLEETWOOD, Birmingham, vessels, and forms of metal and material capable of being moulded.—ALSTON, Glasgow, consuming smoke.—FORLONG, Bristol, also for consuming smoke.—TAYLOR, Littleborough, tyres for smiths' hammers.—LAKE, Southampton-buildings (communication from Latting), metal ties or bands securing cotton bales. This latter article has formed the object of more than one recent application.

Oppositions intended to the following must be entered on or before the 16th inst.:—STEVENS, securing coal-plates.—HOPSON, machines for punching iron or other metal plates.—ARCHER, breaking or grinding stone, ores, and hard materials.—JOHNSON (communication from Muller and Mather), applying hydro-carbons for light and heat.—GOSSET, transporting, warehousing, and bar-

rolling petroleum, oil, or liquids lighter than water.—DULTON, furnaces for heating salt-pans.—RITCHIE and WILLIAMS, drying peat.

Oppositions intended to the following Notices to Proceed must be lodged before the 9th inst.:—FOXLEY, bricks.—Sir J. Y. SIMPSON, utilising mineral oils for heat and light.—THOMPSON, cutting and polishing metals.—WERNER, preventing down draft and ventilation.—CLARK (communication from Archereau), producing oxygen, and applying same for metallurgy.—SHEARD, furnaces.—FASSMANN, New Orleans, metal ties or bands.

The representation of the medal of the Imperial Commission is on view at the offices of Messrs. Johnson, of Castle-street, Holborn, who, the *Times* remarks, were the sole persons through whom the medal, or its presentation, could be inspected. Judging from the inspection, for which I am indebted to the courtesy of Messrs. Johnson, it is no doubt, a fine work of art as far as execution goes; but in regard to its design, one need not be hypercritical to venture to abstain from unmitigated praise. There is a want of adaptability in it which is noticeable. How can two winged and undoubtedly nude Cupids, holding a coffer ready to drop on an eagle, possibly symbolise anything in reference to the applied sciences, or to the progress of industry, arts, and manufactures? This seems difficult even for the most imaginative mind to conceive. One of the first evidences of the advance of manufactures and the useful arts would probably have been to provide clothing for such chameleons little human beings. This, however, as it may, it is impossible to avoid a feeling of admiration for the extraordinary energy and enterprise evinced in all matters connected with the Exhibition by Messrs. Johnson, through whom, I believe, English prize-holders have had the earliest opportunity of learning the results of the awards.

An interesting specification from Trinidad, relating to evaporating and concentrating, has recently been filed, and COIGNET'S last specification in reference to his celebrated beton, or French concrete or cement, is shortly due. These subjects I hope to comment on at some length in a future article.

Among other notable items of the Patent list may be cited:—Sir THOMAS TANCRED, Bart., of Pangbourne, who has applied for a patent (as a communication from Farrer Dalerzon, of Silesia) for improvements in bee-hives. The bee-hive, though an appropriate illustration of the industrial world, rarely, if ever before, has occupied a place in the Patent List. Also, Eliand has produced a patent-applicant in the person of a Mr. FRIDOLF HOOK, of Ekenäs, who has sought protection for an invention relating to reefing and furling top-sails; and Prof. BRUNETTI, of Rovigo, has applied for a patent for the lively subject of embalming animal substances for anatomical purposes.

FOREIGN MINING AND METALLURGY.

The working of iron minerals in the department of the Ille-et-Vilaine is being developed in a remarkable manner. Considerable quantities of these minerals are sent to England, either via St. Malo or Nantes, where ships take them as return freights on easy terms. The quantity of minerals forwarded in 1864 from this part of France was about 6550 tons, but since then the exports have been further developed. These minerals proceed from the communes of Messac, Pongery, Renac, and Bains; they supply also blast-furnaces in the Côtes-du-Nord and the Mayenne. The forges of the Haute-Marne are beginning to receive some orders for sheets from the South; sheets are the only article for which the forges of the Haute-Marne can find an outlet in the South, as the forges of the South monopoly have their own localities the business in merchants' iron. The Bessemer steel rails, which the Lyons, Lyons, and Mediterranean Railway Company, are understood to be submitted by the company's engineers to very severe tests. The stock of pig in the Moselle district is considerable, but is not considered to be increasing. White pig has been sold at 2*l.* 14*s.* per ton in warehouse at the works, but this price is only exceptional, and many works would not enter upon contracts at less than 2*l.* 15*s.* to 2*l.* 16*s.* per ton. Mention is made of an important order for rails given by the Eastern of France Railway Company to the house of Wendel. Refining pig continues to be quoted at 2*l.* 17*s.* 6*d.* per ton in the Meurthe group, but orders are scarce, as well as for rough pig. The quotation for warrants has not varied. With regard to the French coal trade, it is remarked that the department of the Haute-Loire possesses important mineral resources, which are not yet fully turned to desirable account as well in consequence of the want of good and economical means of transport, as of the insufficiency of means of extraction and works of establishment. The production of the collieries of the Brassac basin, nevertheless, exceeded 130,000 tons in 1865; we have not at hand the figures, showing the production of 1866, but it is believed to have been below that of 1865. The most important concessions of the basin are Gros-Ménil, La Trampe, Barthes, and Mège-Coste. The department of the Ardèche possesses six mines of coal, of which two are unworked; the collieries in working are of little importance, but the extraction, which was in 1864 only 4200 tons, rose in 1865 to 9650 tons. A new concession was granted in July, 1865, to MM. André and Montravel; the coal earth is found in this concession at a depth of about 800 feet. Meetings are announced as follows:—Bank of Mines, July 15, at Paris; and Huella Copper Mines Company, July 27, at Paris.

The exports of minerals from Belgium during the first four months of 1867 amounted to 52,266 tons, showing an increase of 10,300 tons as compared with the corresponding period of 1866. The exports of pig only attained a total of 3300 tons, showing a considerable diminution (2977 tons) as compared with the four corresponding months of 1866, when they amounted to 6277 tons. The chief falling off has this year been in the deliveries to the Zollverein, which only took 57 tons, instead of 1760 tons, in the first four months of 1866. The exports of rails from Belgium in the first four months of 1867, amounted to 32,405 tons, showing an increase of 10,136 tons over the corresponding period of 1866. The deliveries of Belgium to Russia figured in this year's total for 29,465 tons, as compared with 5300 tons in the corresponding period of 1866; the deliveries to other countries present, then, a diminution of 10,000 tons to April 30 this year, as compared with the exports of the first four months of 1866. The exports of plates from Belgium declined 1100 tons during the first four months of 1867, only amounting to 4550 tons. In merchants' iron the diminution is 2800 tons, on a total of 17,000 tons exported in the first four months of this year. During the same period of 1866 the exports of iron amounted to 25,000 tons, showing a falling off of 7000 tons compared with the corresponding period of 1866, and of 27,000 tons as compared with the corresponding period of 1865. There is nothing surprising in the great diminution observable, having regard to the state of metallurgical industry in France. The exports to Holland, in which a decrease has been remarked for some time, continue to fall off; and during the first four months of this year presented a diminution of more than 50 per cent. as compared with the corresponding period of 1865. The diminution in the total exports of coke is much smaller than the decline in the exports of coal, being only 6600 tons, as compared with the corresponding four months of 1866. The deliveries of coke to Holland have so diminished that it is almost feared they will completely cease in a short time. During the first four months of 1865 they amounted to 145 tons, while during the same period of 1866 they were only 78 tons, and during the same period of this year only 43 tons; indeed, during April only 2 tons of coke were forwarded to Holland. It is curious to follow the import movement of coal into Belgium; while the imports in the first four months of 1865 only amounted to 24,200 tons, they attained a total of 134,500 tons in the same period of this year. The imports from Prussia, to which should be added those from the Low Countries, only amounted in the first four months of 1866 to 820 tons, while during the same period of 1865 they were 700 tons, and during the same period of this year 73,900 tons (having been in April alone 21,200 tons). The imports of English coal into Belgium, which were only 5600 tons in the first four months of 1865, were 39,000 tons in the corresponding period of this year. The tone of the Belgian coal markets remains much the same; the stock is important, and prices are without firmness, in the basins of Charleroi and the Centre. At Liège a certain activity prevails in deliveries, which has enabled prices to be maintained, with a slightly upward tendency. At the Hare Colliery, the directors are paying a first dividend for the year 1866-7, of 1*l.* 1*s.* 6*d.* per share. The Herve-Wergifosse Colliery Company commenced the payment on Monday of the dividend for 1866, or 2*l.* 8*s.* per share. The Marcellina and Couillet Ironworks and Collieries Company will pay on Aug. 1 the dividend for the exercise 1866-7, or 1*l.* per share. The Val-Benoite Collieries Company is paying a dividend for the exercise 1866-7, or 1*l.* 4*s.* per share. The Sclésien Blast Furnaces, Ironworks, and Collieries Company commenced paying on Monday an interest coupon for 1866-7, at the rate of 5 per cent. per annum. The Thy-le-Château Blast Furnaces and Forges Company commenced paying on Monday a dividend for the exercise 1866-7, at the rate of 6½ per cent. per annum. The Niederschbach Mines and Foundries Company will pay, July 15, a dividend for the exercise 1866, or 16*s.* per share. The Sieg-Rhein Mines and Ironworks Company, and various other industrial undertakings, commenced the payment of obligation interest on Monday. Meetings are announced as follows:—Montigny-sur-Sambre Blast Furnaces and Rolling-Mills Company, July 17, at Brussels; and Cambrésien Sud Collieries Company, July 31, at Charleroi.

It is stated that if the Belmez (Spain) coal basin could be opened up, it would soon produce 200,000, 300,000, or 400,000 tons per annum—in fact, engineers who have visited this rich basin have come to the conclusion that the production would only be limited by the amount of labour which could be brought to bear upon it. As to the consumption, it is affirmed that it is assured, as the Belmez coal would be found to be 25 to 50 per cent. cheaper than English, which is used at Cadix, Malaga, Carthagena, Alicante, &c.

At Havre, Chilean copper has fallen to 70*l.* per ton, with deliveries at close of June, and 70*l.* 10*s.* per ton delivered in the middle of July; arrivals on a considerable scale from the southern seas have occasioned the depreciation in prices. Other descriptions of copper noticed remain generally quiet, without any improvement in prices. At Amsterdam, English has made 46½ *fl.*, and Swedish 50 *fl.* At Rotterdam, English is quoted at 50 *fl.* to 52 *fl.*. At Havre, Peruvian mineral (pure standard) has realised 76*l.*; United States, Baltimore, 80*l.* to 82*l.*; ditto, Lake Superior, 80*l.* to 96*l.*; ditto, Mexican and Plata, in bars, 70*l.* to 72*l.*; ditto, Russian, 88*l.* to 90*l.*; old yellow copper, 82*l.* to 84*l.*; red ditto, 70*l.* to 72*l.*; bronze, 70*l.* to 76*l.* per ton. At Marseilles, Toka, for consumption, has brought 76*l.*; Spanish, 74*l.*; refined Chilean and Peruvian, 82*l.*; old red copper, 70*l.*; rolled red copper for sheathing, 92*l.*; yellow ditto, 82*l.* per ton. At Antwerp, American has made 116*l.* per ton. At Paris, English, in plates, is quoted at 80*l.*; Lake Superior, 82*l.*; Chilean, 71*l.*; and Corocoro mineral, 76*l.* per ton. Tin has somewhat retrograded on the Dutch markets. Of Banca, some lots of little importance have changed hands at 52½ *fl.* and 52½ *fl.*, but on these terms the article is but little offered; 900 blocks of Billiton have found purchasers at 52½ *fl.*, and 500 blocks changed hands on terms which have been kept secret. On the Paris and German markets the article remains quiet, but has been tolerably firm. At Paris, Banca has brought 94*l.* to 96*l.*; Straits, 91*l.*; and English, 90*l.* per ton. At Havre, the quotation for Banca has been 94*l.*; for Straits, 92*l.*; and for Peruvian, 74*l.* to 84*l.* per ton. There is no change in the tone of the lead markets. At Rotterdam, Stolberg has brought 11½ *fl.* At Paris, Spanish samons have made 20*l.* 4*s.*; while French lead has brought 20*l.* 2*s.*; and English, 20*l.* 4*s.* per ton. At Havre, Spanish lead has made

Trade in Sheffield, in most branches, is only indifferent, the makers of steel being the best employed, and just now there are some fair orders for exportation in hand, and also for edge tools and files, and the Trades Unions Commission continues the great attraction, and the Hall is daily crowded with working men anxious to hear the proceedings. This week has again seen the disclosure of another murder, equal in cool atrocity to that confessed to during the previous week. A file-grinder named Renshaw, with remarkable coolness and disgusting bravado, stated that he threw a canister of house powder, to which was attached a fuse, into a bedroom of a house occupied by a man named Wastnidge, whose great offence was that he did not belong to the Union. In the room in bed at the time was a dressmaker, named O'Rourke, who was so severely burnt that she died shortly after. The house was set on fire, and the obnoxious non-unionist and his wife severely burnt also. Of course, all those persons who have admitted committing wilful murder, being accused persons before and after the fact, and inciting as well, escape all punishment by being furnished with a certificate from the Commission. Still, with such startling facts brought into daylight, it is astonishing

Several very important meetings have been held lately in connection with the Miners' Relief Fund of these two counties, and the re-

[illegible]

THE MID-WALES LEAD MINING COMPANY (LIMITED).

Capital, £15,000, divided into 6000 shares of £2 10s. each.
Deposit—On application, 10s. per share, and upon allotment, 10s. per share.
No call will exceed 10s. per share.
Registered under the Companies Act of 1862, whereby each person's liability is limited to the amount of shares subscribed for.

DIRECTORS.
Col. BOULDERSON (late Madras Army), Southsea, Hants.
HARTON CRUMP, Esq. (Director of the Paragassu Steam Tram-road Co., Limited), 117, Cannon-street, E.C.; and Piccadilly, W.
WILLIAM J. LINDSAY, Esq. (Messrs. Grant, Kemphead, and Co.), 46, Lime-street, E.C.
JOSEPH NIGHTINGALE, Esq. (late H.M.'s Civil Service), 45, Cambridge-road, Kilburn.
JOB TAYLOR, Esq., Dixon's Green, Dudley (Chairman of the Central Snail-beach Lead Mining Company, Limited, and the Brynpostig Lead Mining Company, Limited).
No remuneration will be received by the directors until it is voted to them by the shareholders.

BANKERS.
The National Provincial Bank of England, Bishopsgate-street, London.
CONSULTING ENGINEER.
Capt. John Kitto (late of Great Laxey Mines), Shrewsbury.
SECRETARY—Mr. E. Houghton.
OFFICES—3, KING WILLIAM STREET, CHANCERY CROSS, LONDON.

PROSPECTUS.
This company has been formed for the purpose of acquiring the leases and extending the works of a rich silver-lead mine, situated in the richest silver-lead district in North Wales, long celebrated for its immense yield of silver-lead ore. The mine is situated in the parishes of Llangurig and Llandinam, in the county of Montgomeryshire, adjoins the Tyvel station of the Mid-Wales Railway, and is held under lease, upon very moderate terms, for 21 years.

A large amount of valuable work is already done, two rich lodes have been opened upon by means of adit levels, and a quantity of silver-lead ore obtained; the deepest level has been driven about 100 fms., and the end of it is now within a few fathoms of a rich bunch of lead which was discovered when sinking a small shaft on the top of the hill.

A very small amount of capital expended on the driving of this adit will, it is confidently expected, in a short time lay open a large extent of valuable mineral ground, and make the property a permanent dividend-paying mine.

The situation of the property is excellent, railway communication is close at hand, and ample water-power is available all the year round for all purposes of crushing and dressing the ore.

So satisfied are the present owners of the real bona fide value of this property, that they have agreed to sell their entire interest for the moderate sum of £6500; of this sum £500 only will be paid in cash, £5500 in fully paid-up shares, and the balance of £500 will be paid twelve months after registration of the company.

The directors believe that no better proof of confidence in the value of the mine than such conditions of sale as these can possibly be offered. The mine is now at work, and yielding ore.

The Memorandum and Articles of Association contain no unusual clauses, and can be inspected at the offices of the company.

If no allotment is made the deposit will be promptly returned without deduction.

Applications for shares, with a cheque or Post-office Order for the deposit of 10s. per share, can be sent either to the bankers, brokers, or secretary.

No application for less than five shares will be entertained, and the allotments will be made according to priority of application.

Samples of the ores can be seen either at the offices or at the brokers.

Full prospectuses, with reports by Capt. John Kitto, late of the Great Laxey Mines, and Capt. Nancarrow, of the Silverpostig Mining Company (Limited), can be had on application to the Secretary at the company's offices.

TACUARI GOLD MINING COMPANY (LIMITED), IN THE PROVINCE OF MINAS GERAES, BRAZIL.

Capital, £100,000, in shares of £1 each.
2s. 6d. per share on application, 2s. 6d. per share on allotment.
No call to be made at a less interval than three months, or to exceed 2s. 6d. per share.

CHAIRMAN.
H. BIRT, Esq., formerly of the St. John del Rey Mining Company.
BANKERS.
The Consolidated Bank (Limited), 52, Threadneedle-street, London, E.C.
BROKERS.
Messrs. Walker and Lumsden, 25, Abchurch-lane, London, E.C.
Messrs. G. and T. Irvine, India Buildings, Liverpool.
SECRETARY—Edward J. Cole, Esq.
OFFICES—2, NEW BROAD STREET, LONDON, E.C.

Prospectuses and reports, containing the fullest information, to be had of the secretary, or the brokers of the company.

MR. THOMAS SPARGO, STOCK AND SHARE DEALER, 224 & 225, GRESHAM HOUSE, OLD BROAD STREET, LONDON, E.C., TRANSACTS EVERY DESCRIPTION OF BUSINESS IN THE PURCHASE AND SALE OF SHARES IN BANKS, CANALS, MINES, RAILWAYS, BRIDGES, INSURANCES, AND ALL OTHER BRITISH AND FOREIGN STOCK.

Mr. SPARGO has for sale shares in English mines paying regular dividends bi-monthly and quarterly, as also a number of shares in good progressive mines, some of which he with confidence specially recommends to the public as sound investments.

Mr. SPARGO gives every information as to position and prospects of all mining undertakings, upon application, either personally or by letter, and is enabled, through his long experience, aided by his monthly visits to Cornwall, Devon, and Wales, to obtain the most reliable information as to the numerous mines in those districts. He will at all times give the best advice as to investments in mines, and, if necessary, inspect them himself; as in all cases he wishes to be guided by the intrinsic value of the property, and, if required, will furnish a selected list of dividend and progressive companies.

Mr. SPARGO has published the following works, viz.:—
Statistics and Observations upon the Mines of Cornwall, 1859—2s. 6d.
Ditto ditto ditto ditto 1860, price 2s. 6d.
Ditto ditto ditto ditto 1862, price 5s.
Ditto ditto ditto ditto 1864, price 5s.
Ditto ditto ditto ditto 1865, price 5s.

Physical, Geological, and Parish Map of Cornwall. Scale, three miles to an inch. Printed in three colours, showing distinctly the mining districts, the height of the hills, &c. Price 10s. 6d., on cloth and rollers.

Geological Maps of the various mining districts, showing the boundary line of each mine, with the lodes, cross-courses, and elvan courses traversing the same. Price 2s. 6d. each.

A Model, or Relief, Map of Cornwall (6 ft. 6 in. by 5 ft.), containing the names of every town and village, as also every characteristic point of the county. Price 25s.

Dividends received, calls paid, and all orders promptly negotiated. Commission 1/4 per cent.

Mr. SPARGO has 25 years' experience of mining, 10 of which he was engaged in practical mining, and 15 years he has transacted business in mining shares and stock, at 224 and 225, Gresham House, Old Broad-street, City, E.C.

Mr. SPARGO's Statistics for 1866 are now ready.
Bankers: Consolidated Bank, Threadneedle-street.

GUIDE TO INVESTORS.—MR. SPARGO'S "Guide to Investors"

for the present month contains a Tabular Statement of Banking, Mining, other Companies; City and Commercial Facts and Incidents; and a Price List of Shares in Banks, Canals, Railways, Bridges, and Finance Companies. It also contains Rate of Discount at Home and Abroad; together with necessary detailed information connected with the Stock and Share Markets, Mines, and Miscellaneous Companies. The City Article affords the most recent and authentic information concerning the stock, share, and produce markets.

224 and 225, Gresham House, Old Broad-street, London, E.C., June, 1867.

Second edition, enlarged, in 8vo., with woodcuts, 10s. 6d.

HANDBOOK OF PRACTICAL TELEGRAPHY, published with the sanction of the Chairman and Directors of the Electric and International Telegraph Company, and adopted by the Department of Telegraphs for India.

By R. S. CULLEY, Engineer to the Electric and International Telegraph Company.

London: LONGMANS, GREEN, and Co., Paternoster-row.

INVENTORS AND INVENTIONS:

COMPRISING—
1. PHILOSOPHY OF INVENTION;
2. THE RIGHTS AND WRONGS OF INVENTORS; and
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By HENRY DIRCKS, C.E., F.C.S., M.R.S.L., F.R.S.E., &c.
London: E. and F. N. SPON: 48, Chancery-cross, S.W.

Price 1s. 6d., by post 1s. 8d.

NOTES ON THE MINES OF THE RIO TINTO DISTRICT:

Containing a DETAILED REPORT upon the MINES and on the MEANS of RENDERING THEM MORE PROFITABLE, as well as an ACCOUNT of the PROCESS of TREATING POOR ORES of COPPER, successfully used there.

By JOSEPH LEE THOMAS, Assoc. I.C.E.
London: MINING JOURNAL Office, 26, Fleet-street, E.C.

NOTICE.—CAPT. S. M. RIDGE, of LLANIDLOES, MONTGOMERYSHIRE (late manager of the Brynpostig and Cwm Ffion Mines, and others, in Shropshire and Wales), is NOW OPEN to INSPECT and faithfully REPORT UPON ANY LEAD MINE in either of these localities that may be confided to his care, having had better than 30 years' experience in lead mining, as miner and agent.—Address, Capt. S. M. RIDGE, Llanidloes, Montgomeryshire.

BRANDY, BRANDY, GIVE US BRANDY,

Oh! the Ladies say 'tis good!
And a CERTAIN CURE for CHOLERA, spasmodic symptoms, and internal complaints, when unadverted to; but how seldom to be met with in its pure state, unless from the direct importers, C. DEVEREUX and Co., 26, EAST INDIA CHAMBERS, LEADENHALL STREET, LONDON, at 3s., and for "premiere qualite," 40s. per dozen, either pale or brown, bottles and cases included. Forwarded same day against Post-office order or remittance.

In the Court of the Vice-Warden of the Stannaries, Stannaries of Cornwall.

IN THE MATTER OF THE COMPANIES ACT, 1862, and of the WHEAL LOVELL MINING COMPANY.—TENDERS will be RECEIVED at the Registrar's Office, Truro, until the 30th day of July instant, stating the highest price which will be given for the MINE SETT or GRANT, and the whole or any part of the unsold MINING MACHINERY and MATERIALS at WHEAL LOVELL MINE, situated in the parish of Wendron, comprising—
STEAM ENGINE, 50 in., 9 ft. stroke in cylinder, with first piece of rod, with woodwork of engine-house.
TWO BOILERS, 20 tons, with fittings; one ditto, 9 tons.
STEAM WINDING ENGINE, steam stamps engine, 24 in. 8 ft. stroke, with two fly wheels and cranks attached; 2 stamps axles, with cranks, blocks, and brasses, 24 heads, and a quantity of other machinery and materials in general use in mines.—For inspection, apply to Mr. JAMES, at the mine.
Truro, July 4, 1867. JOSEPH ROBERTS, Solicitor, Truro.

In the Court of the Vice-Warden of the Stannaries, Stannaries of Cornwall.

IN THE MATTER OF THE COMPANIES ACT, 1862, and of the CROWN CONSOLS MINING COMPANY.—Notice is hereby given, that ALL CREDITORS of the ABOVE-NAMED COMPANY are REQUIRED on or before the 15th day of July instant, to SEND IN THEIR NAMES AND ADDRESSES, and the AMOUNTS and PARTICULARS of THEIR SEVERAL CLAIMS on the said company, to WILLIAM MICHELL, Esq., the Registrar of the said Court, at Truro.—Dated Registrar's Office, Truro, July 3, 1867.

In the Court of the Vice-Warden of the Stannaries, Stannaries of Cornwall.

IN THE MATTER OF THE COMPANIES ACT, 1862, and of the WHEAL CURTIS MINING COMPANY.—TENDERS will be RECEIVED at the Registrar's Office, Truro, until the 19th day of July instant, stating the highest price which will be given for the MINE SETT or GRANT, dated the 24th June, 1863, for the term of 21 years from the 21st February, 1863, at 1-18th pence, under and by virtue of which the mining operations of the said company have been for some time past carried on.—Further particulars may be obtained at the Registrar's Office, Truro.
Dated Truro, July 3, 1867. HODGE, HOCKIN, AND MARRACK, Truro.

FOWEY CONSOLS MINE.

MR. WILLIAM WERRY WILL SELL, BY PUBLIC AUCTION, on Monday, July 15, at Ten o'clock in forenoon, at FOWEY CONSOLS MINE, TYWARDREATH, near PAR STATION, the undermentioned VALUABLE MINE MACHINERY and MATERIALS, viz.:
ONE 80 in. cylinder ENGINE, 10 ft. 3 in. by 9 ft. 3 in. stroke, with FOUR BOILERS, 12 tons each, and fittings.
TWO 22 in. winding ENGINES, 5 ft. stroke, boilers and cages, complete.
ONE 18 in. winding ENGINE, 4 ft. stroke, boiler and cages, complete.
TWO 22 in. hydraulic ENGINES.
ELEVEN WATER WHEELS, of various sizes, from 16 ft. to 40 ft. diameter.
Rods, bobs, and working gear, for man engine.
2 drawing machines, worked by water wheels.
1 saw mill, worked by water wheels.
1 copper ore crusher, worked by water wheels.
Patent separators, worked by water wheels.
2 Water stamps, with iron axles, together 56 heads.
A large quantity of Memel and red pine main rods, varying from 6 in. to 14 in., with hammered iron plates and rod pins to match.
Upwards of 100 pumps, various sizes, from 7 in. to 17 in. diameter.
A quantity of flange and door pulley pump rings, &c.
14 H pieces, from 8 in. to 18 in. diameter.
20 door pieces, from 8 in. to 18 in. diameter.
14 plunger poles, from 6 in. to 15 in. diameter, with stuffing boxes, glands, and brass bushings.
16 flat bottom and sinking windroves, of different sizes.
A large quantity of bucket brones, and brasses.
A large quantity of iron stave ladders.
A large quantity of staples and glands.
A large quantity of flat rope and other shies, from 2 ft. to 9 ft. diameter.
Crab winches, of different sizes.
Hand and side screws, of different sizes.
5 capstans and shears, of different sizes.
15 balance bobs, with castings, brasses, &c.
450 fms. 12 in. shroud laid capstan ropes, 100 fms. of which is new.
5 in. and 7 in. flat ropes. Horse whin ropes.
Upwards of 100 tons rail and iron.
Several tons railway saddles. Several tram wagons. Several horse whins.
A large quantity of good useful timber.
A large quantity of new and old iron.
A large quantity of smiths' bellows and tools, miners' tools, barrows, &c.
A superior large turret clock, complete, with two dials.
And a variety of other articles and effects in general use in a large mine.
The whole will be offered in One Lot, and if not disposed of then to be sold separately.

The above may be inspected on application to the agents on the mine, or further particulars obtained from WILLIAM WEST, Esq., Tredenham House, St. Blazey; Mr. WILLIAM POLKINGHORNE, Woodlands, Par Station; Captain FRANCIS PUCKEY, St. Blazey; or the auctioneer, St. Blazey.
Dated June 20th, 1867.

GLoucestershire.—PRELIMINARY ADVERTISEMENT.

VALUABLE FREEHOLD ESTATE AND MINERALS.—In the months of August or September next, will be OFFERED FOR SALE, BY AUCTION (unless disposed of in the meantime by private contract), a VALUABLE FREEHOLD ESTATE, called "BARR'S COURT,"

Situate in the parish of BITTON, within three and a half miles of the City of Bristol, one mile of the Warley Station of the Bath and Mangotsfield branch of the Midland Railway, and two miles of the Keynsham Station of the Great Western Railway.

The estate, which comprises about 350 acres of very rich pasture, orchard, and arable land, is divided into several farms, with good farmhouses and suitable farm and outbuildings.

The MINERALS under the estate are leased to very responsible tenants, are now being worked, and may be purchased with the estate or separately, together with about ONE THOUSAND ACRES OF MINERALS immediately adjoining, all forming part of the BRISTOL COAL FIELD.

Plans and particulars, with the report of an eminent mining engineer upon the coal and other minerals, may be seen, and further information obtained, on application to Messrs. G. C. ASHMEAD and SON, Land Agents and Surveyors, 11, Small-street, Bristol; or to Messrs. WHITTINGTON and GRIBBLE, Solicitors, 15, Clare-street, Bristol.

IN THE COURSE OF THE MONTH OF FEBRUARY, 1868, on a day to be fixed hereafter, will be PUBLICLY SOLD, to the highest bidder, by the COMPANY FOR THE PROMOTION OF OPENING MINES IN NETHERLANDS INDIA, in liquidation, and after future approval by Government, THE CONCESSION FOR THE WORKING OF THE COAL MINES AT BANJOE-IRANG (KALANGAN), situate in the residency south, and eastern division of BORNEO, together with the WORKS at the MINES, erected by the company, in such condition as they may be found on being taken over.

Information can be obtained at Amsterdam, from Messrs. HEKKEKER and Co., whilst the original documents are kept for investigation at the office of Messrs. TIEDEMAN and VAN KERCKHOF at this place.

G. A. DE LANGE,
D. JANNETTE WALEN.

Batavia, 12th April, 1867.

TO BE SOLD, BY PRIVATE CONTRACT, all that valuable

TIN MINE, called WHEAL VLOW, in the parish of PERRANZABULO, CORNWALL, together with all the MATERIALS thereon. The materials are nearly new, and consist of a 24 in. rotary PUMPING ENGINE, 70 fms. of 8 in. pitwork, 7 and 8 in. rods, stamps of 16 heads, account-house, carpenters' and smiths' shops, dressing-floors, with requisite machinery for dressing 12 tons of tin per month.

Wheal Vlow is situated in a well-known tin district, adjoining the Old Budnick Mine. The sett is very extensive, traversed by numerous lodes, and large returns have been made, and in the immediate neighbourhood of some of the first tin and silver-lead strata in the county, and is well worthy the notice of mine adventurers.

All particulars may be known on application to Mr. RICHARD COWLEY, Rosevalle, Scorrier, Cornwall, by whom offers will be received.
Dated June 19, 1867.

TO BE SOLD, at the SEVERN COPPER AND LEAD MINES,

near LLANIDLOES, for £200, all that new and substantial well-built MACHINERY, consisting of—
ONE WATER-WHEEL, 45 feet high, about 4 feet 6 inches breast;
DRAWING MACHINE, upon the best principle;
ONE STEEL WIRE ROPE, 400 fathoms long, 3/4 in. diameter, and ONE CAPSTAN.

The other machinery is open for offers for further portions.
For orders to view the same, address to JOSEPH JUKES, Birkenhead; or apply upon the works.

PAIR OF COUPLED NEW HIGH-PRESSURE HORIZONTAL

ENGINES, highly finished, and most modern construction, bore of cylinders 24 in., 4 ft. stroke, wrought-iron piston rod, 4 in. diameter, working through back end of cylinder, slot link motion, cranks and crank-shaft of wrought-iron, and turned all over; drum sides, 11 ft. diameter, for round rope; brake with lever to engine-driver; load indicator, &c.

Also, PAIR of 20 in. DITTO.

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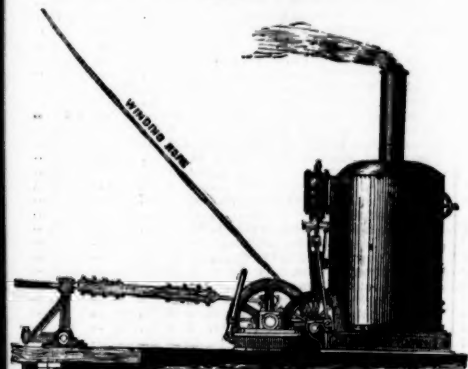
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2 in.	2	3	4	5	6	7	8	9	10
3 in.	3	4	5	6	7	8	9	10	11
4 in.	4	5	6	7	8	9	10	11	12
5 in.	5	6	7	8	9	10	11	12	13
6 in.	6	7	8	9	10	11	12	13	14
7 in.	7	8	9	10	11	12	13	14	15
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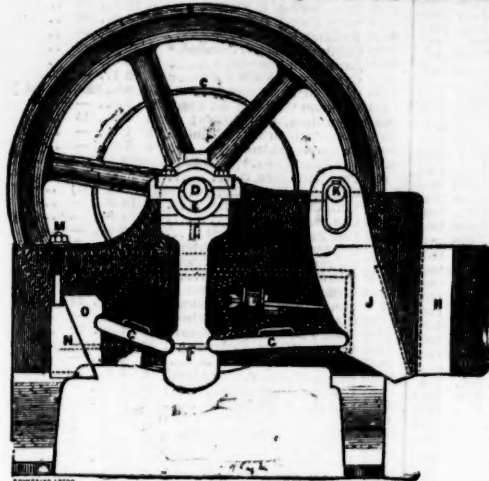
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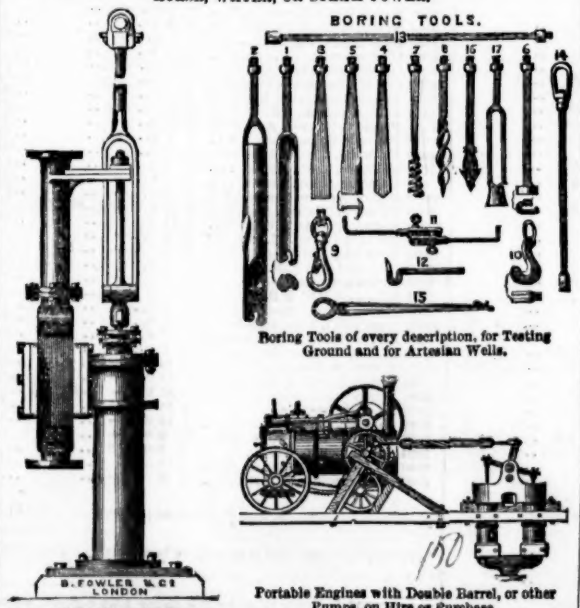
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Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
500	Alderley Edge, c. Cheshire	10 0 0	8 12 8	0 5 0	Jan. 1867
200	Botallack, t. c. St. Just	91 5 0	180	..	488 15 0	5 0 0	May, 1866
4000	Brookwood, t. c. Cheshire	1 11 0	..	..	5 0 0	0 2 6	Sept. 1866
1000	Brookwood, t. Cheshire	12 0 0	..	..	8 0 0	0 6 0	Aug. 1866
6000	Cashwell, t. Cumberland	2 10 0	..	..	0 1 6	0 1 6	Aug. 1866
916	Cargill, s. l. Newlyn	15 5 7	12	..	13 15 0	1 0 0	Feb. 1866
1367	Cwm Erfin, t. Cardiganshire	7 10 0	..	..	23 18 0	1 0 0	June 1867
128	Cwmystwith, t. Cardiganshire	60 0 0	..	..	379 10 0	3 0 0	April 1867
280	Derwent Mines, s. l. Durham	300 0 0	..	..	174 10 0	5 0 0	June 1867
1024	Devon Gl. Consols, c. Tavistock	1 0 0	425	..	1060 0 0	6 0 0	May 1867
358	Dolcoath, c. l. Camborne	128 17 6	..	..	828 10 0	3 0 0	June 1867
6144	East Caradon, c. St. Cleer	2 14 6	6 1/4	5 1/2	14 9 6	0 2 0	April 1867
1024	Herodfoot, t. near Liskeard	32 0 0	..	..	140 10 0	2 0 0	May 1867
128	East Pool, t. c. Pool, Illogan	24 5 0	..	..	402 10 0	5 0 0	May 1867
5000	East Rosewarne, c. l. Gwinnear	2 15 0	9s.	..	0 10 6	0 1 6	Jan. 1866
1906	East Wheel Lovell, t. Wendron	3 9 0	8	7 1/2	2 15 0	0 7 6	April 1867
2800	Foxdale, t. Isle of Man	25 0 0	..	..	70 10 0	0 10 0	June 1867
5000	Frank Mills, t. Christow	3 18 6	..	..	3 5 6	0 5 0	Feb. 1866
5000	Great Laxey, t. Isle of Man	4 0 0	20	18 19	6 15 0	0 10 0	June 1867
5808	Great Wheel Vor, t. c. Helston	4 0 0	19	17 18	11 13 0	0 7 6	June 1867
1024	Herodfoot, t. near Liskeard	32 0 0	..	..	42 0 0	1 10 0	June 1867
6000	Hingston Down, c. l. Camborne	5 10 6	..	..	0 10 0	0 5 0	May 1867
400	Lisburne, t. Cardiganshire	18 15 0	..	..	489 10 0	3 0 0	Mar. 1867
9000	Marke Valley, c. Caradon	4 10 6	5	4 1/2	3 14 0	0 3 0	April 1867
3000	Minera Boundary, t. Wrexham	1 0 0	..	..	0 13 0	0 3 0	Mar. 1866
1800	Minera Mining Co. t. Wrexham	25 0 0	..	155 16	412 13 0	4 0 0	May 1867
20000	Minera Mining Co. t. Wrexham	7 0 0	16	..	..	..	Jan. 1867
40000	Mynydd Iron Ore	3 5 0	..	..	0 6 6	0 2 6	Mar. 1866
300	Parys Mines, c. Anglesey	50 0 0	..	..	157 10 0	5 0 0	Jan. 1866
6000	Prosper United, t. c. St. Hilary	8 14 0	2 1/2	2 1/2	0 5 0	0 5 0	Feb. 1866
1120	Providence, t. Uny Lelant	10 6 7	30	28 30	82 17 6	0 10 0	May 1867
512	South Caradon, c. St. Cleer	1 5 0	..	..	556 10 0	6 0 0	May 1867
6000	South Darren, t. c. Helston	3 6 6	..	..	0 5 6	0 2 6	June 1866
6000	Thurcroft, c. t. Pool, Illogan	9 0 0	14	13 14	18 11 0	0 5 0	Jan. 1867
2000	Trumpet Cons., t. Helston	11 10 0	..	..	11 5 0	0 5 0	June 1867
3000	W. Chiverton, t. Perranzabuloe	10 0 0	68	65 67	19 7 6	2 0 0	May 1867
400	West Wheel Seton, c. Camborne	47 10 0	155	148 150	473 0 0	3 0 0	June 1867
512	Wheel Basset, c. l. Camborne	5 2 6	70	67 70	623 0 0	1 0 0	June 1867
1024	Wheel Friends, t. Tavistock	20 0 0	..	..	300 10 0	0 5 0	Feb. 1866
4295	Wheel Killy, t. St. Agnes	5 4 6	..	..	3 1 0	0 2 0	Nov. 1866
1024	Wheel Mary Ann, t. Menheniot	8 0 0	15	13 14 1/2	61 15 0	0 15 0	June 1867
2090	Wheel Rose, c. Scourie	..	..	..	1 0 0	0 10 0	Feb. 1866
396	Wheel Seton, c. l. Camborne	58 10 0	120	110 115	244 5 0	2 10 0	June 1867
1040	Wheel Trellawny, s. l. Liskeard	5 17 0	9 1/2	..	54 14 6	0 4 0	June 1867
3000	Whitwell Lead, Clitheroe	0 5 0	..	..	0 10 0	0 10 0	June 1867
17000	Wicklow, c. l. Wicklow	2 10 0	21 1/2	..	46 15 0	1 0 0	April 1867

FOREIGN DIVIDEND MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
15000	Cape Copper Mining	7 0 0	8	7 1/2	2 12 6	0 10 0	April 1866
100000	Don Pedro No. del Rey, Brazil	0 14 0	4 1/2	4 1/2	0 4 3	0 1 6	June 1867
25000	Fortuna, t. Spain	2 0 0	..	..	1 5 4	0 2 0	Oct. 1867
70000	English and Australian	2 10 0	..	..	1 13 0	0 1 0	Oct. 1867
20000	Gen. Mining Assn. t. c. St. Agnes	20 0 0	..	..	23 19 0	0 15 0	June 1867
10000	Gonessa, t. c. St. Agnes	3 0 0	..	..	1 1 6	0 5 0	Jan. 1866
15000	Linares, t. Spain	3 0 0	..	..	10 per cent.	..	Yearly
50000	Panulillo, c. t.	3 0 0	..	..	10 per cent.	..	Yearly
4000	Peel River Land and Mineral	2 10 0	3 1/2	2 1/2	0 2 6	0 2 6	Mar. 1867
30000	Pestarene, g. t.	20 0 0	..	..	4 3 2	1 3 6	Dec. 1866
10000	Pontgibaud, s. l. France	1 0 0	..	..	0 16 6	0 1 0	Jan. 1867
100000	Port Phillip, c. Clunes	1 0 0	1 1/2	..	7 1/2 per cent.	..	Mar. 1867
120000	Scottish Australian Mining Co. t.	1 0 0	..	..	7 1/2 per cent.	..	Mar. 1867
11000	St. John del Rey, Brazil	58 60	..	..	77 5 0	4 10 0	June 1867
20000	Victoria (London) £25000 £1 pd., 25000 12s. 6d. pd.]	1 0 0	..	..	0 9 0	0 1 0	Jan. 1866
40000	West Canada Mining Company	1 0 0	..	..	0 19 6	0 2 6	May, 1866

NON-DIVIDEND FOREIGN MINES.

Shares.	Mines.	Paid.	Last Pr.	Business.	Total divs.	Per share.	Last paid.
25000	Alamillos, t. Spain	0 10 0	..	..	0 10 0	..	..
100000	Anglo-Brazilian, g. t.	0 5 0	..	..	0 5 0	..	..
12000	Anglo-Italian, g. t.	7 6 0	..	..	7 6 0	..	..
20000	Australian, c. South Australia	5 0 0	31 1/2	..	5 0 0	..	..
40000	Britannia Silver-Lead Mines, France [15750 lbs. pd.]	1 12 0	..	..	1 12 0	..	..
2464	Burra Burra, c. South Australia	4 0 0	4 1/2	5 1/2	4 0 0	..	..
25000	Capula, s. Mexico	43 10 0	..	..	43 10 0	..	..
30000	Chontales, g. s. Nicaragua	10 0 0	..	..	10 0 0	..	..
12000	Cobre Copper Company, c. Cuba	10 0 0	..	..	10 0 0	..	..
10000	Copiapu Mining Company, Chile	10 0 0	..	..	10 0 0	..	..
10000	Copiapu Smelting, Chile	10 0 0	..	..	10 0 0	..	..
300	East del Rey, c. Brazil	2 15 0	..	..	2 15 0	..	..
25000	El Chico Silver Mining and Reduction Company	5 0 0	..	..	5 0 0	..	..
8000	English and Canadian Mining Company	2 0 0	..	..	2 0 0	..	..
40000	Fortune Copper Mining Co. of Western Australia	1 15 0	..	..	1 15 0	..	..
50000	Frontino and Bolivia, c. New Granada	5 0 0	..	..	5 0 0	..	..
10000	Great Barrier Land, Mining, &c. New Zealand	1 11 6	..	..	1 11 6	..	..
60000	Great Northern, c. South Australia	1 0 0	..	..	1 0 0	..	..
60000	Kapunda Mining Co. Australia	3 0 0	..	..	3 0 0	..	..
797	Lusitania (Portugal)	0 12 6	..	..	0 12 6	..	..
8390	Marquette	..	..	..	..	..	..
12500	Nerbudda Coal and Iron [6000 £3 pd., 6500 £4 pd.]	3 10 0	..	..	3 10 0	..	..
51000	New Quebrada, c. Venezuela	1 15 0	..	..	1 15 0	..	..
50000	Nova Scotia Land and Gold	2 0 0	..	..	2 0 0	..	..
15000	Otea, c. New Zealand	0 10 0	..	..	0 10 0	..	..
10178	Rhenish Consolidated, t. [6000 £3 pd., 4178 £2 10s. pd.]	0 10 0	..	..	0 10 0	..	..
10000	Rosa Grande, c. Brazil	5 0 0	..	..	5 0 0	..	..
16000	San Pedro del Monte, s. Mexico	5 0 0	..	..	5 0 0	..	..
10000	San Roque, t. Spain	28 5 0	2	2 1/2	28 5 0	..	..
43174	United Mexican, c. Mexico	6 0 0	..	..	6 0 0	..	..
10000	Vancouver, c. t.	6 10 0	..	..	6 10 0	..	..
4000	Val Sassam, s. c. t.	1 0 0	..	..	1 0 0	..	..
45000	Victor Emanuel, c. Italy	5 0 0	..	..	5 0 0	..	..
20000	Washoe, g. t.	1 0 0	..	..	1 0 0	..	..
80000	Worthing, c. South Australia	1 0 0	..	..	1 0 0	..	..
75000	Yorke Peninsula, South Australia	3 0 0	1 1/2	1 1/2	3 0 0	..	..
45000	Yudanumutana, c. S. A. t.	..	..	..	..	..	..

BANKS AND FINANCIAL COMPANIES.

Shares.	Banks.	Paid.	Last Pr.	Bus. done.
40000	Alliance*	25 0 0	16 1/2	14 ..
40000	Australian Mort. Land and Finance†	5 0 0	6	5 1/2 ..
50000	Australia†	25 0 0	64	66 ..
10000	Bank of Egypt†	25 0 0	33	..
50000	Bank of New Zealand†	10 0 0	19	18 1/2 ..
25000	Bank of Otago*†	10 0 0	6 1/2	..
20000	Bank of Victoria, Australia†	25 0 0	38	..
20000	British North American†	50 0 0	53	..
8915	Canada Company*	32 10 0	71	65 69 ..
50300	Canadian Loan and Investment*†	2 10 0	—	..
40000	Chartered Bank India, Australia, and China†	20 0 0	18 1/2	..
30000	Chartered Merc. of India, London and China†	25 0 0	32	..
40000	City†	10 0 0	13 1/2	..
20000	Colonial†	25 0 0	38	..
40000	Company of African Merchants.*†	3 0 0	3 1/2	3 3 1/2 ..
150000	Consolidated Bank*†	4 0 0	4 1/2	5 1/2 ..
50000	ditto New*†	4 0 0	4 1/2	..
200000	Credit Foncier and Mobilier of England*†	9 0 0	3 1/2	3 1/2 3 1/2 ..
20000	East London*†	5 0 0	2 1/2	..
30000	English, Scottish, & Aust., Chart.†	20 0 0	18	..
20000	English and Swedish†	25 0 0	17	..
20000	Imperial Bank*†	10 0 0	23	20 1/2 ..
202500	Imperial Ottoman†	10 0 0	23 1/2	8 1/2 ..
300000	International Land Credit*†	6 0 0	—	..
50000	London Chartered Bank of Australia†	20 0 0	24	..
37500	London and County†	20 0 0	27	..
40000	London Financial Association*†	30 0 0	9	..
72000	London Joint-Stock†	15 0 0	43	44 1/2 45 ..
5000	London and River Plate*†	40 0 0	51	45 ..
2000	ditto ditto New, issued at 1 1/2 prem.*†	10 0 0	13	..
2000	ditto ditto New	10 0 0	13	..
19000	London and South-Western*	20 0 0	19	..
5000	London and Venezuela*†	12 0 0	—	..
50000	London and Westminster†	20 0 0	96	103 105 ..
50000	Mercantile and Exchange*†	12 10 0	—	..
10000	Merchant*†	25 0 0	16	..
5000	ditto New*†	20 0 0	10	..
17155	Metropolitan and Provincial*†	20 0 0	—	..
5000	Midland*†	20 0 0	19 1/2	..
20000	National of Australia†	15 0 0	14	..
20000	National of Liverpool*†	12 0 0	—	..
10000	National Provincial of England†	42 0 0	—	..
65000	ditto ditto 2d and 3d issue†	12 0 0	—	..
40000	National†	30 0 0	63	..
60000	New South Wales†	20 0 0	45	..
60000	Oriental Bank Corporation†	25 0 0	44	42 43 1/2 ..
27210	Provincial Banking Corporation*†	10 0 0	4 1/2	..
28000	Provincial of Ireland†	25 0 0	8 1/2	..
10000	ditto ditto New†	10 0 0	9	..
40000	Union of Australia†	25 0 0	45	..
10000	Union of Ireland*†	22 0 0	15	..
80900	Union of London†	15 0 0	41	40 1/2 41 ..